REST AND ENGLY



Celebrating Sanctuary in the Life Sciences Alexandria Real Estate Equities, Inc. Annual Report

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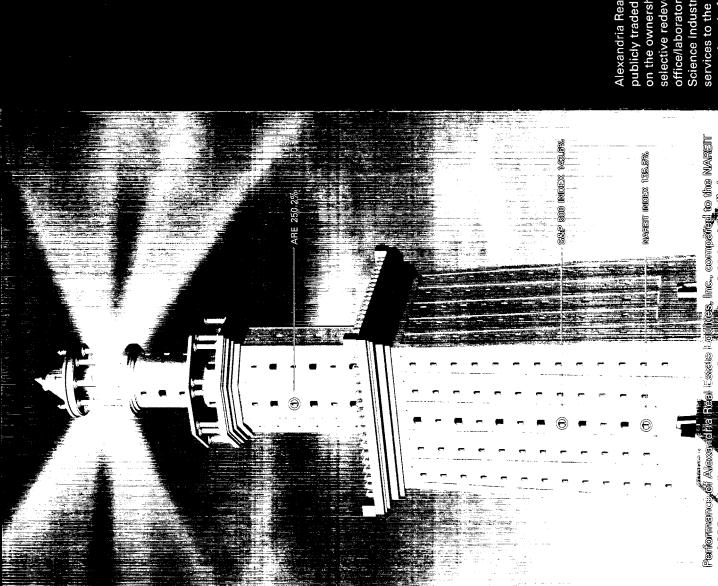
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World Class Space for World Class Science

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AGO, IN A SIRE DURING THE SIEGE OF ALEXANDRIA BY JULIUS CAESAR. THE NEW ALEXANDRIA LIBRARY OCCUPIES THE SAME SITE AS ITS NAMESAKE ON THE SHORES OF THE MEDITERRANEAN SEA.





Performance, ôf Alexandria Real Estate Equities, Inc., competred to the NAREIT and S&P 500 Indices (total return performance) incension initial public offering on May 78, 1897, to December 31, 2001, assuming primaennestment of all dividents)

Alexandria Real Estate Equities, Inc. (NYSE: ARE) is the first and only publicly traded real estate operating company principally focused on the ownership, operation, management, acquisition, expansion and selective redevelopment and development of properties containing office/laboratory space. Alexandria is the Landlord of Choice to the Life Science Industry<sup>8M</sup>, providing high-quality office/laboratory space and services to the broad and diverse life science sector. Alexandria's national operating platform is based on the principle of "clustering," with assets and operations strategically located in key life science hub markets.

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OPPERATIONAL REVIEW AND FINANCIAL HIGHLIGHTS

TO FELLOW ALEXANDRIA REAL ESTATE EQUITIES, INC. OWNERS:

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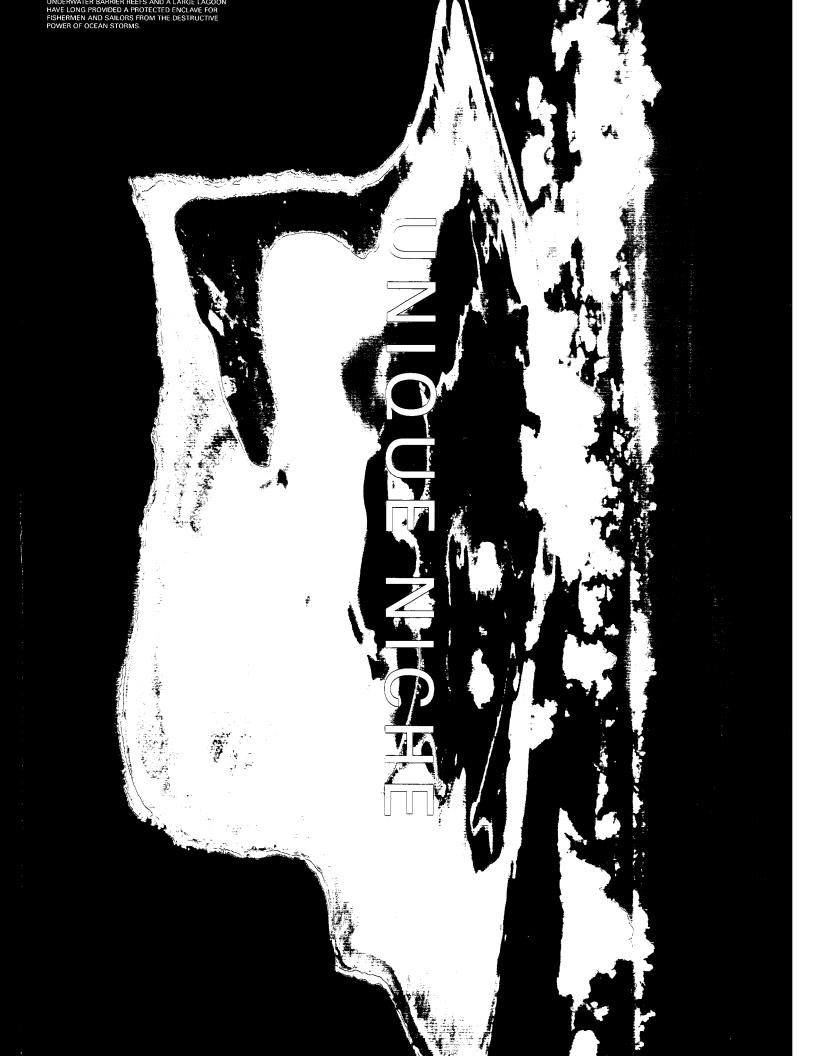


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Throughout a challenging 2001, Alexandria has provided a place of refuge and protection for our shareholders, client tenants and employees. In essence, Alexandria has become a sanctuary in a difficult climate by carving out a unique niche with high barriers to entry, and providing consistent growth through the strategic focus of our strong management.

# SANCTUARY



Alexandria is the first and only publicly traded real estate operating company principally focused on the unique office/laboratory niche serving the broad and diverse life science industry.

Taking the human genome project one step further, the new research discipline of "proteomics" has emerged in a quest for a better understanding of basic biochemical mechanisms underlying our health.

Alexandria's differentiated strategy is based on the principle of "clustering," with assets and operations strategically located in key life science cluster markets. Funding for the life science industry is based on long-term investment in research and development, which is generally not impacted by short-term economic cycles.

scientists will discover novel disease markers and drug targets, which will

enable the development of new products that will address significant

unmet medical needs.

potential clue to human complexity in contrast to other living organisms. It is believed that, through studies of protein functions and interactions,

science industry have now turned to the investigation of proteins as a

Having sequenced the human genome, many scientists in the life

# NOVEL NOVEL



The life science real estate niche is one with high barriers to entry, concentrated in markets that cluster around centers of scientific excellence.

Since the founding of the first pharmaceutical company in 1668, significant emphasis has been placed on advancing medical technology and science to develop life-saving and therapeutically beneficial medicines.

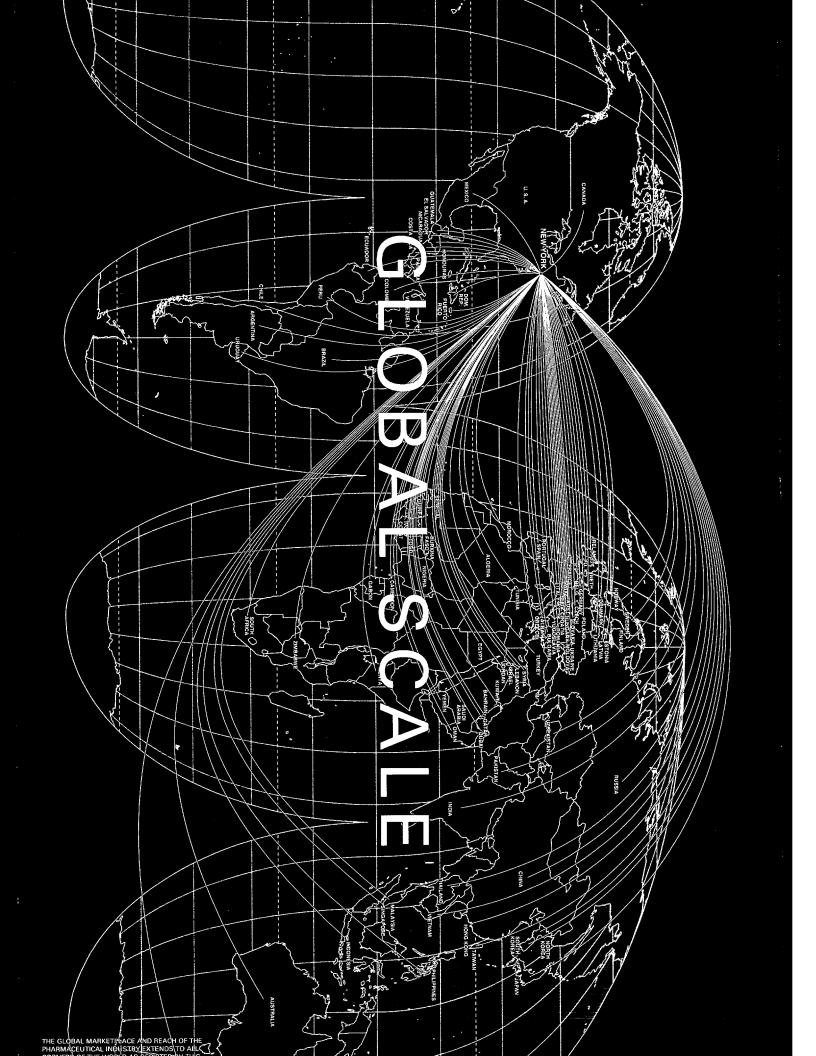
Alexandria is uniquely positioned to fulfill the complex life science space and infrastructure needs of organizations that employ the best minds to discover scientific breakthroughs to help humankind.

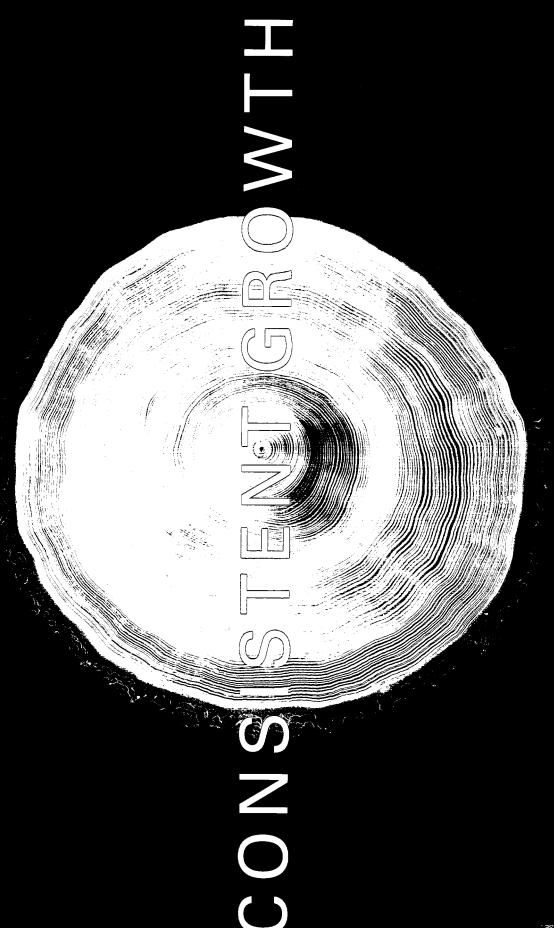
Today, Alexandria's number one tenant, Pfizer Inc., is the largest pharma-

ceutical company in the world. Pfizer's scale and global infrastructure provide for the innovative research and development, manufacturing,

distribution and marketing capabilities that are necessary to ensure that

medicines reach patients throughout the world.





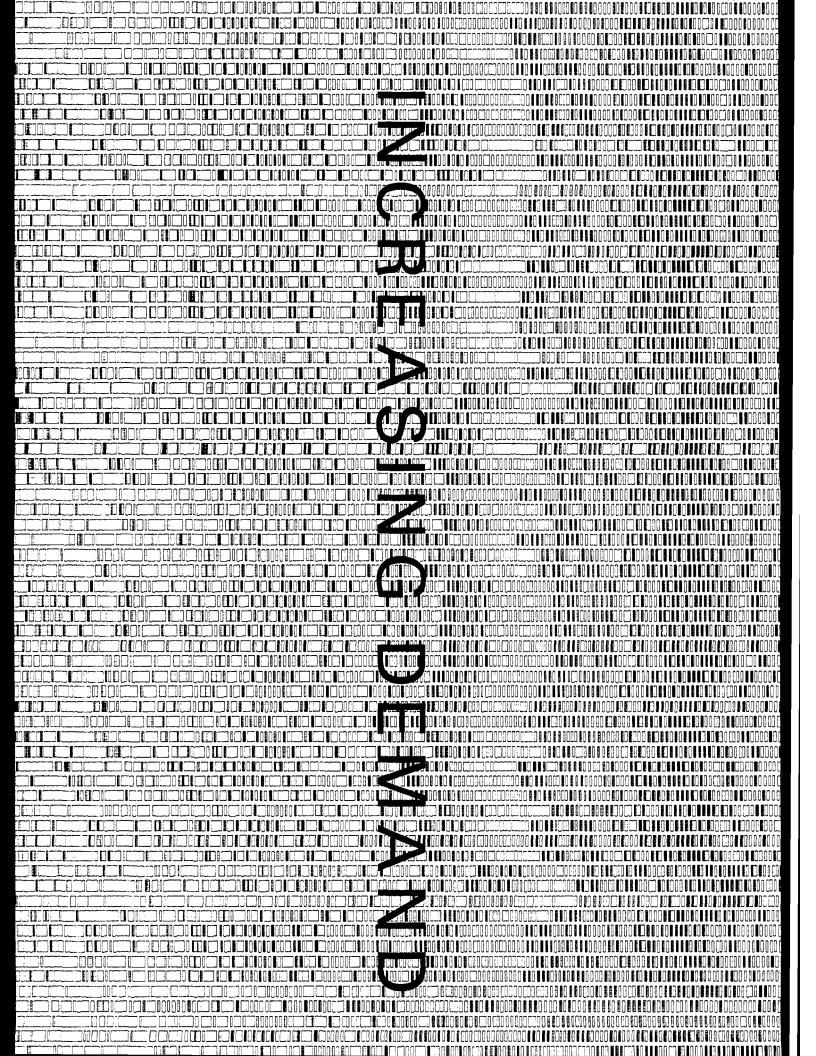
OPPOSITE PAGE: CHART DETAIL GEWERATED BY A ACHEREN, G-BLACK, T-BRED, WITH EACH BAUD HEPRE-BORD ACHORACODED C-BLUE, MICH EACH BAUD HEPRE-BORD BATA INTO THESE VERTICAL LANGES, G-BRUE, MICH EACH BAUD HEPRE-BORD C-BLUE, MICH EACH BAUD HEPRE-BORD C-BLUE, MICH EACH BAUD HEPRE-BORD C-BLUE, MICH EACH BAUD HEPRE-BORD C-BRUE, MICH EACH BAUD HERBE.

Allexandria has consistently grown its funds from operations per share, its market capitalization, asset base and operations every quarter since the initial public offering in May 1997.

As we enter the 21st century, the aging of the population will provide challenges as well as opportunities in the life science industry. Effective and affordable diagnostics and therapeutic treatments are essential for our wellness and quality of life.

Alexandria's growth has been driven by the unique real estate and life science industry niche strategy that management has executed with its experience and expertise.

Demand for high-performance medical products will continue to grow, enabling physicians to accurately diagnose diseases and effectively treat and monitor patients. Additionally, novel research tools and instruments that empower scientists in genomic research are now becoming an integral part of the drug discovery engine that will generate cures for many heretofore untreatable diseases.



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HISTORIC INTERNATIONAL TOURS, AND BEST-SELLING.
HECOSONICS.

Alexandria's management team and board of directors are highly experienced, with multifaceted expertise in both the real estate and life science industries.

Bold leadership in the public sector is not only a key driver of our economy, mational policy and civil liberties, but also a guardian and promoter of public health and security.

Management is uniquely qualified to drive and execute Alexandria's business strategy in this critically important and leading-edge sector, and has consistently achieved solid growth while continually maintaining financial flexibility.

Governmental and civilian leadership was tested in 2001 as the tragic events of September 11th negatively impacted our nation and economy in a significant manner. This tragedy demonstrated that strong leadership requires thoughtful, steady and visionary individuals during turbulent times.



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Alexandria's consistent financial and operating results are attributable to a highly focused strategy on life science entities and their cluster markets.

Academic institutions are pillars of the scientific community, providing scientists with an environment in which to nurture technological breakthroughs, and in which the physicians and scientific research talent of tomorrow can flourish.

Alexandria's focus as the first and only real estate operating company specializing exclusively on serving the life science industry has enabled the company to deliver stable and consistent growth during varying economic cycles.

Leland H. Hartwell, Ph.D., President and Director of the Fred Hutchinson Cancer Research Center, a client tenant of Alexandria, was awarded the 2001 Nobel Prize in Medicine or Physiology. Dr. Hartwell's work expands the understanding of how normal cells divide and the mechanisms behind the uncontrolled growth of cancer cells. His work, like that of so many other prominent academic researchers, sets the standard for scientific excellence.

D M N O W





Block calls Allexandria
Real Estate Equities "a
virtually recession-resistant
property." The company
owns five million square feet
of properties, mostly in key
Callifornia cities, eastern
Massachusetts and North
Carolina — markets where
much of the health-care
development takes place.

### Selected

## Financial Data

Alexandria Real Estate Equities, Inc. and subsidiaries

The following table should be read in conjunction with our consolidated financial statements and 1997

notes thereto appearing elsewhere in this report	in	this repo	₹					
For the Year Ended December 31	1	2004	_	2000		1999		1998
(dollars in thousands, except per share amounts)								
Operating Date:								
Total revenue	හ	63 <i>T,T</i> E3	ঞ	127,720 \$ 106,910 \$	60	86,262 \$	-60	61,016
Total expenses		97,813		108,08		64,209		41,613
Net income (loss)	ග	30,277 \$	ভ	26,009 \$	w.	22,053 \$	<b>€</b> >	19,403
Net income (loss) per share of common stock (pro forma for 1997)								
- Basic	හ	€.©7 \$	ණ	1.55 S	<b>C</b> 7	1.48 \$	ψ»	1.60

34,846

37,643

Diluted

Basic

Diluted

Cash dividends declared per share of common stock

මික්ඩාලට මිර්මේ (මිස්ත (at year end): (pro forma for 1997)

Rental properties - net of accumulated depreciation

Secured notes payable, Total assets unsecured line of

Stockholders' equity Total liabilities credit and term loan

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ග	භ	ග	භ	ශ	්ශ	20	E)	ග	හ	හ
332,638 \$	603,625	573,161	\$69,148	735,623	1.84	16,208,178	667'885'GL	1.03	1.07	30,277
ও?	භ	ශ	ග	ଚ	69	-2	14	ශ	ভ	භ
319,152 \$	461,832	431,256	780,984 \$	679,653	1.72	14,699,470	14,460,711	1.52	1.55	26,009
ଜ	ශ	ঞ	୬	ಅ	ශ	-		ঞ	୯୨	୬
262,583 \$	380,535	350,512	643,118 \$	554,706	1.69	13,670,568	13,525,840	1.46	1.48	22,053
ଚ	ಅ	ଚ	ଜ	භ	ශ	مب		ଜ	ধ্য	କ
199,769 \$	330,527	309,829	530,296	471,907	1.60	12,306,470	12,098,959	1.58	1.60	19,403
ঞ	ଚ	ঞ	ග	ঞ	ঞ			ଜ	ଚ	ର ୧୬
166,917	81,537	70,817	248,454	227,076	1.60	8,075,864	8,075,864	(0.35)	(0.35)	(2,797)

Occupancy of properties owned at year end	Rentable square feet of properties owned at year end	Number of properties owned at year end	Cash flows from financing activities	Cash flows from investing activities	Cash flows from operating activities	Funds from operations (2)	Depreciation and amortization	Add:	Dividends on preferred stock	l.ess:	Net income (loss)	(dollars in thousands, except par share amounts) ගතියැ මක්ය:
			89	ග	ග	හ					භ	
65% ta	\$63'618'S	82	687,881	(192,179)	60,340	57,169	30,578		(3,665)		30,277	2001
	8		S	ঞ	ශ	ঞ					ঞ	
91% 🖾	4,856,650	75	98,879	(132,480)	32,931	46,594	24,251		(3,666)		26,009 \$	2000
	4		မာ	ශ	€9	ଜ					ශ	
92% (3)	4,046,126	58	69,430 \$	(113,549)	46,011 \$	38,549 \$	18,532		(2,036)		22,053 \$	1299
	(2)		ea	භ	<del>ও</del> ን	৬э					୧୬	-
93% (3)	3,588,154	51	220,136	(192,179) \$ (132,480) \$ (113,549) \$ (246,753) \$ (87,620)	26,111	29,699	10,296		ŀ		19,403	1998
			ශ	ශ	<b>69</b>	ঞ					ঞ	
97%	1,747,837	22	84,101	(87,620)	3,883	2,069	4,866		ı		(2,797)	1997

<sup>(1)</sup> Pro forma shares of common stock outstanding for the year ended December 31, 1997, includes all shares outstanding after giving effect to the the 1,765.923 to 1 stock split, the issuance of the stock grants and exercise of substitute stock options. initial public offering (tha "Offering"), weighted for the period beginning from the date of the Offering, conversion of all series of preferred stock,

<sup>(2)</sup> We compute funds from operations ("FFO") in accordance with standards established by the Board of Governors of NAREIT in its October 1999 detailed discussion of FFO, sea "Wanagement's Discussion and Analysis of Financial Condition and Results of Oparations - Funds from non-recurring expenses associated with the Offering of \$12,197,000, and the write-off of unamortized loan costs of \$2,295,000. For a more joint ventures. FFO for 1997 has been restated to conform to the White Paper as amended in October 1999. FFO for 1997 has been impacted by losses) from sales of proporty, plus real estate related depreciation and amortization and after adjustments for unconsolidated partnerships and White Paper ("White Paper"). The White Paper defines FFO as net income (loss) (computed in accordance with GAAP), excluding gains (or

<sup>(3)</sup> Includes properties under redevelopment. Excluding properties under redevelopment, our properties were approximately 99%, 98%, 98% and 93% leased as of December 31, 2001, 2000, 1999 and 1990, respectively.

# Management's Discussion and Analysis of Financia Condition and Results of Operations

Alexandrie Hoal Tateto Equitios, Inc. and subsidiertos

The terms "we," "our," "ours" and "us" as used in this report refer to Alexandriz Real Estate Equities, Inc. and its subsidiaries. The following discussion should be read in conjunction with our consolidated financial statements and notes thereto appearing elsewhere in this report.

#### duli di invi

We are a publicly traded real estate operating company focused principally on the ownership, operation, management, acquisition, expansion and solective radevelopment and development of high quality, strategically located properties containing office/laboratory space loased principally to tenants in the life science industry (we refer to those properties as "life science facilities").

#### in 2001, we:

Sold 500,000 shares of common stock in one transaction, resulting in aggregate proceeds of approximately \$16.8 million, not of underwriting discounts and commissions and other offering context.

# Expanded our borrowings by obtaining an unsecured \$50 million term loan.

Acquired five proportios with an aggregate of approximately 345,000 romests square feat. In addition, we completed the development of two properties with approximetely 109,000 rentable square feet.

Our primary source of revenue is rental income and tenent recoveries from lesses at the properties we own. Of the R2 properties we owned as of December 31, 2001, four were acquired in 1994, an in 1994, 29 in 1998 (the "1998 Proporties"), six in 1999, 12 in 2000 and five in 2001, in addition, we completed the elevelopment of one properties in 2000 (together with the six properties acquired in 1999, the "2000 Proporties"), five properties in 2000 (together with the six properties acquired in 2000, the "2000 Properties"), and two properties in 2000 (together with the five properties acquired in 2000, the "2001 Properties"), as a result of these acquiristen with the five properties acquired in 2001, the "2001 Properties"). As a result of these acquiristen and coveres on the five properties in the five properties and coveres on the fer reconnection to 1999.

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Bental revenue increased by \$15.7 million, or 20%, to \$99.2 million for 2001 compared to \$92.5 million for 2000. The increase resulted primarily from the 2000 Proparties being owned for a full period and the addition of the 2001 Proparties. Bental revenue from proparties operating for a full year during 2000 and 2001 (the "2001 Same Proparties") increased by \$3.7 million, or \$.7%, due to increase in rental rates and occupancy.

Tonant recoveries increesed by \$4.5 million, or 21%, to \$25.4 million for 2001 compared to \$20.9 million for 2000. The increes resulted primarily from the 2000 Properties being owned for a full pariod and the addition of the 2001 Properties. Tenent recoveries for the 2001 Same Properties increesed by \$516,000, or 3.2%, primarily due to increeses in certain recoverable.

Interest and other income decreased by \$239,000, or 7%, to \$3.3 million for 2001 compared to \$3.5 million for 2000, primarily due to a decrease in interest income resulting from a decline in interest rates and a decline in service fee income.

Rental operating expenses increased by \$4.2 million, or 19%, to \$25.1 million for 2001 compared to \$21.8 million for 2000. The increase resulted primarily from the 2000 Properties being owned for a full period and the addition of the 2001 Properties. Operating expenses for the 2001 Same Properties increased by \$583,000, or 5.5%, primarily due to an increase in utilities and tenant related expenses (substantially all of which are recoverable from our tenants through tenant recoveries).

The following is a comparison of property operating data for the 2001 Same Proporties computed under generally accepted accounting principles ("GAAP! Basis") and under generally accepted accounting principles, adjusted to exclude the effect of straight-line rent adjustments required by GAAP ("Cash Basis") (dollars in thousands):

CANY Deate: Havanua Hantal operating expanses Not operating income Comit Deate:	88.787.88 (7,008) (8,007) (8,007)	\$75,500 15,710 \$18,850 \$73,945	5.0% 5.8% 5.8% 5.7%
Hontal operating expenses		18,710	2.8%
Not oppositing jacostra	607 600	@ E.7 99E	705

General and administrative expenses increased by \$2.7 million, or 30%, to \$11.7 million for 2001 compared to \$9.0 million for 2000 due to the continued increase in the scope of our operations.

Inforest exponse increased by \$3.3 million, or 13%, to \$29.1 million for 2001 compared to \$25.8 million for 2000. The increase resulted from (a) indebtedness incurred to acquire the 2000 and 2001 Proporties and (b) indebtedness incurred to finance the development and redevelopment of proparties which have now seen completed. The increase in interest exponse caused by these fractors was partially offset by a decrease. The increase in interest exponse caused by these gradits whigh they are accounted in the floating interest and on our unscentred line of aredit. The weighted average interest are on our borrowings (not including the effect of swap agreements) decreased from 8.32% as of December 31, 2001 to 3.92% as of December 31, 2001 (We have enticided into certain swap agreements to hodge our borrowings at variable interest rates (see "Ligitlify and Capiter Resource".

Depreciation and amortization increased by \$6.3 million, or 26%, to \$30.6 million for 2001 compared to \$24.3 million for 2000. The increase resulted primarily from depreciation associated with the 2000 Properties being owned for a full period and the addition of the 2001 Properties. As a result of the foregoing, net income was \$30.3 million for 2001 compared to \$26.0

Comparison of the Year Finded December 31, 2000 to the Year Finded December 31, 1939 Rental revenue increased by \$14.1 million, or 21%, to \$82.5 million for 2000 compared to \$68.4 million for 1999. The increase resulted primarily from the 1999 Properties being owned for a full period and the addition of the 2000 Properties. Rental revenue from properties operating for a full year during 1999 and 2000 (the "2000 Same Properties") increased by \$1.7 million, or 3.0%, due to increases in rental rates and occupancy.

Tenant recoveries increased by \$4.6 million, or 28%, to \$20.9 million for 2000 compared to \$16.3 million for 1999. The increase resulted primarily from the 1999 Properties being owned for a full period and the addition of the 2000 Properties. Tenant recoveries for the 2000 Same Properties increased by \$2.3 million, or 17.1%, generally due to an increase in certain recoverable operating expenses.

Interest and other income increased by \$2.0 million, or 129%, to \$3.5 million for 2000 compared to \$1.5 million for 1999, resulting primarily from \$1.4 million of investment income and \$424,000 in service fee income.

Rental operating expenses increased by \$2.9 million, or 15%, to \$21.9 million for 2000 compared to \$19.0 million for 1899. The increase resulted primarily from the 1899 Properties being owned for a full period and the addition of the 2000 Properties. Operating expenses for the 2000 Same Properties increased by \$1.0 million, or 5.9%, primarily due to the increase in tenant related expenses (substantially all of which are recoverable from our tenants through tenant recoveries) partially offset by the fact that third party management fees are no longer incurred at certain properties.

The following is a comparison of property operating data computed on a GAAP Basis and on a Cash Basis for the 2000 Same Properties (dollars in thousands):

Net operating income	Rental operating expenses	Revenue	Cash Basis:	Net operating income	Rental operating expenses	Revenue	For the Year Ended December 31
\$53,027	97,070	\$73,697		\$67,559	17,070	\$74,620	2000
\$51,949	16,116	\$68,065		\$54,094	16,116	\$70,210	1999
7.9%	5.9%	7.4%		6.4%	5.9%	6.3%	Change

General and administrative expenses increased by \$2.0 million, or 29%, to \$9.0 million for 2000 compared to \$7.0 million for 1999 due to the continued increase in the scope of our operations. Interest expense increased by \$6.1 million, or 31%, to \$25.8 million for 2000 compared to \$19.7 million for 1999. The increase resulted primarily from (a) indebtedness we incurred to acquire

the 1999 and 2000 Properties, (b) indebtedness incurred to finance the development of properties which have been completed and (c) an increase in the floating interest rate on our line of credit. The weighted average effective interest rate on our borrowings (not including the effect of swap agreements) increased from 7.33% as of December 31, 1999 to 8.32% as of December 31, 2000.

Depreciation and amortization increased by \$5.8 million, or 31%, to \$24.3 million for 2000 compared to \$18.5 million for 1999. The increase resulted primarily from depreciation associated with the 1999 Properties being owned for a full period and the addition of the 2000 Properties.

As a result of the foregoing, net income was \$26.0 million for 2000 compared to \$22.1 million

### Liquidity and Capital Mosources

#### Gesh (Joye

Net cash provided by operating activities for 2001 increased by \$27.4 million to \$60.3 million compared to \$32.9 million for 2000. The increase resulted primarily from increases in cash flows from operating life science facilities, an increase in accrued liabilities related to construction costs and the liability associated with our interest rate swap agreements.

Net cash used in investing activities increased by \$59.7 million to \$192.2 million for 2001 compared to \$132.5 million for 2000. This increase was due to a higher level of property development and redevelopment costs incurred, as well as a higher level of property acquisition costs.

Net cash provided by financing activities increased by \$32.5 million to \$131.4 million for 2001 compared to \$98.9 million for 2000. Cash provided by financing activities for 2001 and 2000 primarily consisted of net proceeds from our unsecured line of credit, unsecured term loan, secured debt and issuances of common stock and exercise of stock options, partially offset by principal reductions on our secured debt and distributions to stockholders.

#### Commitments

As of December 31, 2001, we were committed under the terms of certain leases to complete the construction of buildings and certain related improvements at a remaining aggregate cost of \$12.9 million.

As of December 31, 2001, we were also committed to fund an aggregate of approximately \$39.1 million for the construction of building infrastructure improvements under the terms of various leases and for certain investments.

3000 3000 CON

Restricted cash consists of the following (in thousands):

As of December 31 Symptoms is only the country are conditionated assertation countries, countries of treation of	8038	2000
renes nate in treas de gazingoral sacerny reguinde en ser ma ferma of contain acourad notes payable	80016 8	\$5,103
Scaurity doposit funds based on the terms of cortain leaso agreements	1005	1,882
Funds held in escrow to complete the development of an office/laboratory facility	6.003	!
	CX 150	8 6,935

#### Court Conde

Scenario debit as of December 31, 2001, consists of the following (Gollars in thousands):

Collector of	23 company 23 company 1 xm3	States Information	Meturity
Wordster, WA "	0 10,450	0.75%	January 2006
Ourhean, NG (two proposition)	52,539	0.68%	December 2006
Gelfinorsburg, WP (three proporties)	203°C	0.25%	August 2007
Cembriégo, MA 18	CES CO	0.125%	October 2007
Chenfilly, Whend Soafelo, WA	50373	7.22%	May 2003
Woresser, MA and San Diego, CA	0100	0.71%	Jenuery 2010
Gaiftionsburg, Mit (two proporties)	82,833	0.33%	Navomber 2010
Sen Diego, CA (six proporties)	83253	7.7.5%	July 2011
San Diogo, CA	43333	7.50%	August 2011
Galthersburg, Mill (thrse proporties)	02502	7.60%	Jenuary 2012
Alemade, CA	3389	7.165%	Januery 2016
Sen Nego, CA (wao properties)	EN'I	80006	December 2014
Sortilo, WA	80000	7.75%	June 2016
San Francisco, CA (was proporties) 🕫	C 3 81	13,200 Lison+1.70%	Junc 2003
	00000000		

The belance chown includes an unamority of promium of 8485,000; the offective rate of the loan is 7,25%.

The following is a summany of the scheduled principal payments for our secured debt as of December 31, 2001 (in thousands):

Year 2002 2003 2003 2004 2005 2005 2005 2005 2005 2005 2005

## Add Toka mereka to Toka ya Affisianan Bara ya Et Toka mereka Sasa

We have an unactured line of eradit that provides for borrewings of up to \$325 million.

Borrewings under the line of eradit born interest at a floating rate based on our alcation of either a LEKSA Sared rate or the ligher of the bank's reference rate and the factoral fance rate place 0.5%. For each LEKSA beend attempt, we must elect to fix the rate for a paried of one, two, three or six neother.

The line of eredit contrins financial covenents, including, anong effect things, inclusionary of minimum act worth, a total liabilities to grow caset volue ratio and a fixed charge coverage ratio. In addition, the terms of the line of credit restrict, among other things, certain investments, indebtedness, classifications and mergers. The line of credit expires (charge 2003 and provides for an edditional organization provided there is no default) for an edditional encode upon notice by the company and consent of the participating banks. As of December 31, 2001, sorrowinge under the line of credit carried a walgined average interestrate of 3.52%.

In October 2001, we obtained a Sib million unscoured term form which bears interest at a flecting rate based on our decition of efformable interest at a consistence and the federal funds rate plus 0.5%. For each 1.50 it based advance, we must also to fix the rate for a period of one, two, three or elx months. The term loan contains financial covenants substantially similar to those on our line of credit. As of December 31, 2001, the term loan carried a weighted average interest rate of 3.98%.

Aggregata Sorrewings under the line of predit rise fine term loon are limited to an amount beach on the not operating income ferived from a good of unanoundered assets. Accordingly, as we acquire or complete the development or redevelopment of additional unanoundered properties, aggregate borrowings available under the line of credit and the term loan will increase up to the maximum of \$375 million. Under these provisions, as of December 31, 2001,

<sup>.</sup> The belence chown includes an unamorited premium of \$1,610,000; the effective rate of the loan is 7,25%.

The balanca chown representation amount drawn on a construction loan that provides (or borrowings of rip to (28, 179,000)

aggregate borrowings under the line of credit and the term loan were limited to \$360 million.

We utilize interest rate swap agreements to hedge our exposure to variable interest rates associated with our unsecured line of credit and unsecured term loan. These agreements involve an exchange of fixed and floating interest payments without the exchange of the underlying principal amount (the "notional amount"). Interest received under all of our swap agreements is based on the one-month LIBOR rate. The net difference between the interest paid and the interest received is reflected as an adjustment to interest expense.

The following table summarizes our interest rate swap agreements (dollars in thousands):

\$(7,453)					
(2,035)	December 31, 2002	6.350%	50,000	January 2001 January 31, 2001	January 2001
(3,033)	May 31, 2003	7.070%	50,000	May 31, 2001	July 2000
\$(2,365)	January 2, 2003	6.995%	\$50,000	May 20, 2000	April 2000
Fair Value	Termination Date	ount Interest Pay Rate	Notional Amount   Interest Pay Rate	Effective Date	Transaction Date

Effective January 1, 2001, we adopted Statement of Financial Accounting Standards No. 133 (SFAS 133), "Accounting for Derivative Instruments and Hedging Activities," as amended by Statement No. 138, "Accounting for Certain Derivative Instruments and Certain Hedging Activities." SFAS 133, as amended, establishes accounting and reporting standards for derivative financial instruments such as our interest rate swap agreements. Specifically, SFAS 133 requires us to reflect our interest rate swap agreements on the balance sheet at their estimated fair value. We use a variety of methods and assumptions based on market conditions and risks existing at each balance sheet date to determine the fair values of our interest rate swap agreements. These methods of assessing fair value result in a general approximation of value, and such value may never be realized. As of January 1, 2001, the adoption of SFAS 133, as amended, resulted in qualifying interest rate swap agreements reported on the balance sheet as a liability of approximately \$3.5 million, with a corresponding reduction to accumulated other comprehensive income, a separate component of stockholders' equity.

All of our interest rate swap agreements meet the criteria to be deemed "effective" under SFAS 133 in reducing our exposure to variable interest rates. Accordingly, we have categorized these instruments as cash flow hedges. While we intend to continue to meet the conditions for hedge accounting, if hedges did not qualify as highly effective, the changes in the fair value of the derivatives used as hedges would be reflected in earnings.

We do not believe we are exposed to more than a nominal amount of credit risk in our interest rate swap agreements, as the counterparties are established, well-capitalized financial institutions. In addition, we have entered into master derivative agreements to minimize those risks

tions. In addition, we have entered into master derivative agreements to minimize those risks.

On January 22, 2001, we terminated an interest rate swap agreement with a notional amount of \$50 million, an interest pay rate of 7.25% and a maturity of December 31, 2001. The terminated interest rate swap agreement was replaced with the 6.350% interest rate swap agreement as

shown in the table above. The fair value of the terminated interest rate swap agreement at the date of termination (a liability of \$950,000) was transferred to the replacement 6.350% interest rate swap agreement. During 2001, approximately \$475,000 was reclassified from other comprehensive income to interest expense. Approximately \$475,000 will be credited against interest expense during 2002. These adjustments result in an effective interest pay rate for the 6.350% interest rate swap agreement of 7.30% for 2001 and 5.40% for 2002.

As of December 31, 2001, our interest rate swap agreements have been reported in the accompanying balance sheet at their fair value as other liabilities of approximately \$7.5 million. The offsetting adjustments were reflected as deferred losses in accumulated other comprehensive income of \$7.0 million. Balances in accumulated other comprehensive income are recognized in earnings as swap payments are made.

### Valuation of Investments

We hold equity investments in certain publicly traded companies and privately held entities. In determining if and when a decline in the market value of these investments below amortized cost is other than temporary, we evaluate the market conditions, offering prices, trends of earnings and other key measures. When such a decline in value is deemed to be other than temporary, we recognize an impairment loss in the current period operating results to the extent of the decline.

## Other Resources and Liquidity Requirements

In April 2001, we sold 500,000 shares of common stock to institutional investors. The shares were issued at a price of \$36.44 per share, resulting in aggregate proceeds of approximately \$16.8 million, net of offering costs.

We expect to continue meeting our short-term liquidity and capital requirements generally through our working capital and net cash provided by operating activities. We believe that the net cash provided by operating activities will continue to be sufficient to enable us to make distributions necessary to continue qualifying as a REIT. We also believe that net cash provided by operating activities will be sufficient to fund our recurring non-revenue enhancing capital expenditures, tenant improvements and leasing commissions.

We expect to meet certain long-term liquidity requirements, such as property acquisitions, property development and redevelopment activities, scheduled debt maturities, expansions and other non-recurring capital improvements, through excess net cash provided by operating activities, long-term secured and unsecured borrowings, including borrowings under the line of credit and the issuance of additional debt and/or equity securities.

### Exposure to Environmental Liebilities

In connection with the acquisition of all of our properties, we have obtained Phase I environmental assessments to ascertain the existence of any environmental liabilities or other issues. The Phase I environmental assessments of our properties have not revealed any environmental liabilities that we believe would have a material adverse effect on our financial condition or results of operations taken as a whole, nor are we aware of any material environmental liabilities that have occurred since the Phase I environmental assessments were completed. In addition, we carry a policy of pollution legal liability insurance covering exposure to certain environmental losses at all of our properties.

Ceothi issansitunas l'anni ingressononas and inabity (seats

This following table shows total and weighted everage per square foot capital expenditures, tenant improvements and leasing costs (all of which are eaded to the basis of the properties) related to our life science facilities (excluding expital expenditures and tenant improvements that are recoverable from tenants, revenue-onlanding or related to properties that have undergone redevelopment) for the years ended December 31, 2001, 2000, 1999, 1998 and 1997, emissionable to leases that commenced at our properties after our acquisition.

1.Gal	218	000	6.61			60,853	000	6.00		1,232	i	:
	1,362,216	1398				09	184,000			,,		
		ဟ	භ				ශ ~	<u>ඉ</u>			رم -	69 —
1893	2,091,063	341,600 \$ 347,000	0.12 \$			66,161	\$ 00 <b>0'8</b> /9	5.62		860'77	§ 000'G9	\$ 03.0
		ග	တ				ಆಾ	ಲಾ			တ	න
1839	3,823,250	678,000	0.13 \$			220,397	\$ 000%8%'\$ \$ 000'88%	3.30		755,63	9 000'894	1.58
		တ	ဟ				တ	ಅ			ଡ	৫৯
CECE	4,449,916	773,000	0.17 \$			112,285		7.08		233,017	481,000 \$ 124,000 \$	6.53 8
		හ	ග				တ	co			ଚ	ଓଡ଼
7002	5,131,178	\$ 000'877 \$ 000'677 \$ 000'087'1 \$ CCC5/88'8 \$	3 0.2% \$			181,131	8 000'987 8	3.00 8		(32,777)		1.04 8
	 								——			
Yotel / Weighted Averere	327/132/13	. <b>2,</b> <i>2776</i> , 000				672,976	8 000003388	8 CV:3 :		5/18 <b>1</b> /189	\$ 23,000	9 33
ō	 	9.	<u> </u>				0.2	<u>က</u>			<u>(2)</u>	<u> </u>
	Wolghtod everage squerc feat in partfolio	Proporty releted equiteros	Per wolghted avarage squere foot in portfolio	Concord Enjaconomicals  Cost Confine escass	Hotonentod space <sup>m</sup>	Reconduction of the second	Ionent improvements and feasing costs	Per square foot leased	fienciwal Space	Ronawal squaro foot	Tenant improvements and lessing costs	Por sejuero foot loesca

) Exabidos space that has undergene acdevelopment hafore retenenting. If redevelopment space year included ear a conanted opera, rather frequencial sequencial 2001 and 2003 centid be 27,307,77d and 268,763, respectively, tenent improvemente and leasing coefficient be 67,307,000 and 63,375,000, respectively, and easing persequent footwould be 671.30 and 620.19, respectively.

Capital expenditures fluctuate in any given paried due to the nature, extent and timing of improvements required and the extent to which they are recoverable from our tonants.

Approximately 67% of our leaves provide for the reaspture of cortain depital expenditures (such as I.WAC systems instintened and/or replacement, roof replacement and parking lot result facing). In addition, we maintened an active proventative maintenance program at each of our proporties to minimize applied expenditures required.

ionant improvements and leading costs also fluctuate in any given year depending upon factors areth as the timing and extent of vacancies, property characteristics, the type of lease (renewel tenent or retenented appeal), the involvement of external leading agents and everall corrective market conditions.

#### الريانين وتبات

As of December 31, 2001, approximately 82% of our losses (on a square footage basis) were says not lesses, requiring tenerate to say existiawisally all rect extete taxes and insurance, cominder says and other operating expenses (inducting increases thereto). In addition, approximately 13% of our lesses (on a square footage) waits) required the tenerate footage waits) required the tenerate footage basis our lesses (on a square footage) satis) our lesses (on a square footage satis) entains of securing expensions that are either fixed (generally ranging from 3% to 7%) or induced based on the consumer price index or entities index. Accordingly, we do not believe that our annings or esting from from real each result are subject to any rightfleant risk of inflation. An increase in inflation, however, each stack result as in treactes in the cost of our variable rate operating and unscounce form loan.

(determined in accordence with GAAP) as a measure of our liquidity, nor is it indicative of funds with GAAP), excluding gains (or losnes) from seles of property, plus reel estate releted depredisis needed for capital replacement or expansion, debt service obligations or other commitments tion, and emortization and after adjustments for unconsolidated partnarships and jeint yentures. eveileble to funciour cash needs, including our ability to make distributions. (See "Crah Flowa" GAAP) as an indication of our financial performance, or to cash flows from operating adiivities We believe whit funds from operations ("1.10") is traleful to investors as an additional moranica Papar (the "White Peper"), which may differ from the methodology for calculating 273 utilized of the performance of an equity (REF because, along with cash flows from operating celtivities, 13.0 should not be considered as an alternative to not income (determined in secondance with 130 doca not represent amounts available for our discretionary use because a portion of 130 and uncertainties. The White Paper defines 1970 as not income (lose) (computed in accordance We compute 14.0 in accordance with atmediate catabilished by the Hoard of Governors of the Netional Association of the distate investment fruits ("NAIBIL") in its October 1999 White by other equity HETS, and, accordingly, may not be comparable to such other HETS, Further, our ability to incur and sorvice dobt, to make capital expenditures and to meke distributions. financing ectivities and investing activities, it provides investors with an understanding of for information reparding these measures of cash flow.)

The following table presents our FFO for the years ended December 31, 2001, 2000 and 1999 (in thousands):

The following table shows certain information with respect to the lease expirations of our properties as of December 31, 2001:

Depreciation and amortization 30.578 24.251 18.532
--

Thereafter	2006	2005	2004	2003	2002	Year of Lease Expiration
45	29	16	25	27	52	Number of Expiring Leases
2,346,596	665,796	319,426	423,550	483,343	476,422	Square Footage of Expiring Leases
49.7%	14.1%	6.8%	9.0%	10.3%	10.1%	
\$24.59	\$22.51	\$25.90	\$21.01	\$19.03	\$21.45	Annualized Base Rent of Expiring Leases (Per Square Foot)

Preparty and Lease Information
The following table is a summary of our property portfolio as of December 31, 2001 (dollars in thousands):

	Number of Properties	Rentable Square Feet	Annualized Base Rent	Occupancy   Percentage
Suburban Washington D.C.	19	1,613,529	\$ 25,248	<sup>(1)</sup> 97.8%
California – San Diego	21	949,328	26,942	100.0%
California – San Francisco Bay	7	412,172	12,385	100.0%
Southeast	ω	183,473	3,307	<sup>(1)</sup> 97.5%
New Jersey/Suburban Philadelphia	6	344,390	5,977	100.0%
Eastern Wassachusetts	6	445,474	14,059	100.0%
Washington – Seattle	2	118,393	4,110	100.0%
Subtotal	64	4,066,759	92,028	99.0%
Redevelopment Properties	18	1,253,186	17,246	54.9%
Total	62	5,319,945	\$169,274	88.6%

Substantially all of the vacant space is office or warehouse space.

The following table is a summary of our loses activity for the year ended December 31, 2001, computed on a GAAP Basis and on a Cash Basis:

	Number of Lessos	Square Footage	Expiring Rate	New Reto	Rental Nate   C	Commissions Per Foot	Averago Lessa Term
General Archalay							
Loase Expirations							
Cash Nont	67	864,328	\$18.21	1	I	1	:
GAAP Bont	9	954,329	\$19.07	:	;	:	t
Renewed / Relocaed Space							
Cash Ronf	¢0	864,485	\$21.05	\$22.05	8.3%	\$ 4.52	6.1 Years
GAAP Bent	09	625,465	\$20.03	\$24.05	15.3%	\$ 4.52	6.1 Years
Wonth-to-Wonth Loases							
Ceeh Ront	14	72,599	\$12.16	\$16.79	30.1%	1	:
GAAP Hent	2	72,550	\$11. <b>88</b>	\$16.75	41.3%	:	;
fotal Leasing							
Cash Ronf	8	5/30/7/27	\$20.16	\$22.24	10.3%	;	:
GAAP Rent	56	727,094	\$19.93	\$23.32	13.8%	:	l
Watering Spaces Lansou							
Cash Bent	7.7	287,235	:	\$27.45	1	\$21.02	6.4 Years
GAAP Rent	7.7	287,235	:	\$30.85	i	\$21.02	6.6 Years
All Locas Astivita							
Cash Ront	81	1,014,329	:	\$23.72	:	!	1
GAAP Hant	81	1,014,329	;	\$25.49	1	1	!

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Merket risk is the exposure to loss realiting from changes in interest rates, foreign currency exchange rates, commodity prices and equity prices. The primary market risk to which we are exposed is interest rate risk, which is sensitive to many factors, including governmental monetary and tax policies, domestic and international economic and political considerations and other factors that are beyond our control.

In order to modify and manago the interest characteristics of our outstanding debt and limit the effects of interest rates on our operations, we may utilize a variety of financial instruments, including interest rate swaps, caps, floors and other interest rate exchange contracts. The use of these types of instruments to hadge our exposure to changes in interest rates carries additional risks such as counter-party credit risk and the lagel enforceability of hadging contracts.

Our future cernings, cash flows and fair values relating to financial instruments are primarily dependent upon prevalent market rates of interest, auch as Li IOH. However, due to the purchase of our interest rate swap agreements, the current effects of interest rate changes are reduced. Based on interest rates at, and our swap agreements in effect on, December 31, 2001, a 1% increasing inferest rates at, and our swap agreements in effect on, December 31, 2001, a 1% increasing inferest rates on our line of credit and term loan would decrease annual future considering the effect of our interest rate swap agreements, by approximately \$1.8 million. A 1% character in interest rate owing agreements, by approximately \$1.8 million. A 1% increase in interest rates on our secured debt and interest rate swap agreements would decrease in interest rates on our accuract debt and interest rate swap agreements would increase and interest rate swap agreements would increase their fair value by approximately \$18.1 million. A 1% cherease or decrease in interest rate swap agreements would increase their fair value by approximately \$18.1 million. A 1% cherease or decrease in interest rates on our secured debt and interest rate swap agreements would not have a material limpact on its fair value.

These amounts are determined by considering the impact of the hypothetical interest rates on our borrowing cost and our interest rete swap agreements. These analyses do not consider the offects of the reduced level of overall economic activity that could exist in such an anvironment. Further, in the event of a change of each magnitude, we would consider taking actions to further miligate our exposure to the change. However, due to the uncertainty of the specific actions that would be ablest and their possible offects, the sensitivity analysis assumes no changes in our capital structure.

# Consolidated Balance Sheets

Alexandria Real Estate Equities, Inc. and subsidiaries

As of December 31 (dollars in thousands, except per share amounts)
ASSSC

Rental properties, net

\$ 785,626

2001

Property under development

Cash and cash equivalents

Tenant security deposits and other restricted cash

Secured note receivable

Tenant receivables

Deferred rent

Other assets

Total assets

Liabilities and Stockholders' Equity

Secured notes payable

\$ 245,161

328,000

**38,057** 

8,220

629,503

\$ 232,146

56,650

20,593

3. 123 65,250 2,376 11,528 6,000

Unsecured line of credit and unsecured term loan

Accounts payable, accrued expenses and tenant security deposits Dividends payable

Commitments and contingencies

Stockholders' equity:

9.50% Series A cumulative redeemable preferred stock, \$0.01 par value per share, 1,610,000 shares authorized; 1,543,500 shares issued and outstanding at December 31, 2001 and 2000; \$25.00 liquidation value

Common stock, \$0.01 par value per share, 100,000,000 shares authorized; 16,354,541 and 15,548,356 shares issued and outstanding at December 31, 2001 and 2000, respectively

Additional paid-in capital

301,818

(1,782)

(296)

38,588

Deferred compensation

Retained earnings

Accumulated other comprehensive income

Total stockholders' equity

Total liabilities and stockholders' equity

(6,149) 1,837 332,638 319,152 \$562,146 \$780,984

### Consolidated Statements of Income

Alexandria Real Estate Equities, Inc. and subsidiaries

278,868	155		38,588				461,832	7,453	23,123	231,000	\$ 200,256		\$ 780,984	41,688	14,945	2,835	6,000	6,995	2,776	26,092	\$ 679,653	2000
See accompanying notes.	~ Diluted	– Basic	Weighted average shares of common stock outstanding:	- Diluted	- Basic	Net income per share of common stock:		Net income allocated to common stockholders		Dividends on preferred stock	Net income		Depreciation and amortization	Interest	General and administrative	Rental operations	Eupenses		Interest and other income	Tenant recoveries	Rental	For the Year Ended December 31 (dollars in thousands, except per share amounts) หืองงอกษอธ
	16,	35,		ାଚ	ිශ			ଊ		්ණ	ශ	T	1						T		ග	
	16,200,178	15,553,459		1.S	ી.હ?			26,611		3,888	30,277	97,513	30,578	29,126	11,684	26,115		127,780	3,268	25,356	99,171	2001
	14,	14,		69	ନେ			ঞ		<b>ও</b>	ఈ										ଚ	
	14,699,478	14,460,711		1.52	1.55			22,343 \$		3,666	26,009	80,901	24,251	25,791	8,986	21,873		106,910	3,506	20,905	82,499	2000
	13,6	13,5		€9	€					ଚ	<b>⇔</b>										භ	) 
	13,670,568	13,525,840		1.46	1.48			20,017		2,036	22,053	64,209	18,532	19,697	6,977	19,003		86,262	1,532	16,305	68,425	1999

See accompanying notes.

# Comsolidated Statements

# of Cash Flows

Moxementa Neal Batete Hauffles, Inc. and subsidieries

1539

34,163 25,829 36,876 074

For the Year Ended December 31 (in thousands)	ZC07	2000	1929 ,	For the Year Endod Docombor 31 (in thousands) ೨೭೭೧ಗಾರವಿವೃದ್ಧ ಗಿರತ್ನೆಗಳಿಸಿರು	ACOT	2000
Net income	0 30,2W	\$ 25,009	\$ 22,053	Proceeds from secured notes payable	37,233	38,037
Adjustments to reconcile net income to net cash provided by operating activities:				Net proceeds from issuances of common stock	39//33	52,117
Depreciation and amortization	87.5.08	24,251	10,532	ivet bi deceta ironi issuentee or profettet suota Exarcisa of stock options	1 83	6.115
Amortization of loan feas and coats	C. RIVE	1,021	897.	Net borrowings from (principal reductions to)		}
Amordzation of promiums on secured notes	(@%)	(331)	(310)	unscoured line of eredit and unscoured term loan	300783	38,000
Stock compensation expanse	2,855	1,831	1,658	Principal reductions on secured notes payable	(22,042)	(6,025)
Changes in operating assots and liabilities:				Dividends paid on common steck	(85°33)	(26,722)
ionant security deposits and other restricted cash	(6,538)	(2,314)	2,810	Dividends paid on preferred stack	(8,003)	(3,655)
lenant receivables	(2003)	202	(878)	Repurchase of common stack	: 1	1
Deferred rent	(85.5°E)	(186'9)	(3,418)	Not cash provided by financing activities	087,287	3/6'63
Other ansots	(50,005)	(11,976)	(33,188)	Not (degreese) increase in cash and cash equivalents	(000)	(9/9)
Accounts payablo, acorucó expanses and tenant security deposits	(1) (C.S.)	(223)	2,005	Cash and cash oquivelents at beginning of year Cash and each conivelents at each of year	2,000	3,443
Not eash provided by operating activities	008(00)	32,531	46,011	Supplemental Plusianus of Rubl Days Menneden	) } }	
Exessing Astructos Purchaso of rantal proporties	(657,763)	(98,584)	(63,653)	Cash paid during the year for interest, not of interest capitalized	7570Z8	\$ 25,315
Additions to rental proporties	(00%(00)	(40,539)	(16,007)			
Additions to property under development	(008'66)	(25,813)	(29,130)			
Additions to investments, not	(8:83)	(13,544)	(3,776)			
Net cash usad in invosting activities	(362,573)	(132,480)	(113,545)			

(3,303)

(1,272) (3,452) (05,430 1,002 1,554 \$ 3,445

\$ 23,512

(2,000)

See accompanying notes.

# Stockholders' Equity Consolidated Statements of

Alexandria Real Estate Equities, Inc. and subsidiaries

	Series A	Number of		Additional			Accumulated Other	
dollars in thousands)	Preferred Stock	Common Sharos	Common Stock	Paid-In Capital	Deferred Compensation	Retained Earnings		Total
Balance at December 31, 1998	<b>⇔</b> I	12,586,263	\$126	\$ 199,643	භ 1	ණ 	<b>⇔</b>	\$ 199,769
Net income	1	t	ı	1	í	22,053		22,053
Unrealized gain on marketable securities	i	1	ı	ı	ı	1	172	172
Comprehensive income	ı	1	1	ı	1	ı		22,225
Issuance of common stock, net of offering costs	1	1,150,000	11	29,818	1	ì		29,829
Repurchase of common stock	ı	(145,343)	(1)	(3,458)	1	ı		(3,459)
Issuance of preferred stock, net of offering costs	38,588	1	ı	(1,712)	1	1	ı	36,876
Stock compensation expense	ı	105,800	<u>-</u>	3,151	(3,152)	1		1
Amortization of stock compensation expense	1	ı	ŧ	1	1,658	1		1,658
Exercise of stock options	1	48,902	•	874	1	ı		874
Dividends declared on preferred stock	ļ	t	1	ı	ı	(2,036)		(2,036)
Dividends declared on common stock	1	1	-	(3,136)		(20,017)		(23,153)
Balance at December 31, 1999	38,588	13,745,622	137	225,180	(1,494)	ŧ	172	262,583
Net income	1	í	ı	1	ı	26,009		26,009
Unrealized gain on marketable securities	1	i	1	ı	ı	ı	1,665	1,635
Comprehensive income	ı	ı	I	•	ľ	ł		27,674
Issuances of common stock, net of offering costs	ı	1,625,000	16	52,101	ſ	ı		52,117
Stock compensation expense	ı	18,400	ı	633	(633)	ı		1
Amortization of stock compensation expense	i	1	1	1	1,831	ı		1,831
Exercise of stock options	ı	159,334	2	4,113	1	1		4,115
Dividends declared on preferred stock	1	i	ļ	ı	ı	(3,666)		(3,666)
Dividends declared on common stock	1	1	1	(3,159)		(22,343)	ł	(25,502)
Balance at December 31, 2000	38,588	15,540,356	155	278,860	(296)	i		319,152
FAS 133 transition adjustment	1	ı	1	ı	1	ı		(3,461)
Net income	ı	ı	ı	ı	ı	30,277		30,277
Unrealized loss on marketable securities	ı	ł	ł	1	i	ı		(1,008)
Unrealized loss on swap agreements	ı	ì	ı	ı	- 1	1	(3,517)	(3,517)
Issuance of common stock, net of offering costs	ı	500,000	ഗ	16,746	ŧ	ı		16,751
Stock compensation expense	ı	122,555	<u>.</u>	4,326	(4,327)	1		ī
Amortization of stock compensation expense	1	1	1	ı	2,841	ı		2,841
Exercise of stock options	ı	183,630	2	5,198	ı	. 1		5,200
Dividends declared on preferred stock	ı	ı	ı	1	1	(3,666)		(3,665)
Dividends declared on common stock	1			(3,320)	1	(26,611)		(29,931)
Balance at December 31, 2001	838,488	16,384,841	8318	8301,818	\$ (1,782)	1		8 332,638

# Motes to Consolidated

# Financial Statements

Alexendria Boal Batero Equitios, Inc. and subsidiarios



science product and cervice companies, not-for-profit scientific research institutions, universities and related government agencies. As of December 31, 2001, our portfolio consisted of 82 properties in nine states with approximately 5,320,000 remable square feet, compared to 75 properties and selective redevelopment and development of properties containing a combination of office facilities are designed and improved for leass primarily to pharmaceutical, biotechnology, life Alexandria Real Estate Equities, Inc. is a real estate investment trust ("REIT") formed in 1994. We are engaged primarily in the ownership, operation, management, acquisition, expansion and laboratory space. We refer to these proporties as "life science facilities." Our life science in nine states with approximately 4,857,000 rentable square feet as of December 31, 2000.



Reals of Franciation and Strannay of Significant Assemblay Policies

### Hasis of Presentation

The consolidated financial statements include the accounts of Alexandria and its subsidiaries. All significant intercompany balances and transactions have been eliminated.

### Use of Estimates

reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during secepted in the United States, requires us to make estimates and assumptions that affect the The preparation of financial statements, in conformity with accounting principles generally the reporting period. Actual results could differ from those estimates.

### Cash Equivalents

We consider all highly liquid investments with original maturities of three months or less when purchased to be cash equivelents.

# Accumulated Other Comprehensive Income

Accumulated other comprehensive income consists of the following (in thousends):

As of December 31 Unroalized gain on merkotable securities	Unrealizad loss on interest rate swap agreements
---	--

2003	81,837	1	\$1,837
2001	() () ()	(e/.0°s)	(do):/ola
•		l	-

primarily involved in the life science industry. All of our investments in publicly traded companies have been included at fair value in other assets in the accompanying balance sheets. Fair value ized gains and losses shown as a separate component of stockholdors' equity. The cost of invasiare considered "available for sale" under the provisions of Statement of Finandial Accounting has been determined by the most recently traded price at the balance sheet date, with unrealments sold is determined by the specific identification method, with realized gains and losses Standards No. 115, "Accounting for Certain Investments in Debt and Equity Securities," and We hold equity investments in certain publicly traded companies and privately held ontities included in interest and other incorne.

The following table summarizes our available-for-sale securities (in thousands):

As of December 39	2091	2000
Cost of available-for-sale securities	9 85789	2,311
Gross unrealized geins	1.68	2,245
Gross unrealized Josses	(EZ)	(412)
i eir valuo of availablo-for-salo sacurities	8 26000	4,148

Investments in privately held entities as of December 31, 2001 and 2000, totaled \$26,417,000 and \$14,777,000, respectively. These investments are accounted for under the cost method and are included in other assets in the accompanying belance sheets.

Investment income, which is included in interest and other income in the accompanying statements of income, consists of the following (in thousands):

2007	88,423 81,575	(321) (200)	80,000 8 0,000 8
For the Year Ended December 31	Gross roalized gains	Gross roalized lossos	investment income

# Rental Proporties and Property Under Development

fair value. Write-downs to estimated fair value would be recognized when impairment indicators oxiont the carrying amount exceeds the fair value of the property. Based on our assessment, no ere prosont end e proporty's ostimated undiscounted future cash flows, before intorest charges, Rentel proparties and proparty undar davalopment are stated at the lower of cost or estimated ere loss than its book value. In that situation, we would recognize an impairment loss to the write-downs to estimated feir valuo word necessary for the periods presented.

The cost of maintenence and repairs is expensed as incurred. Mejor replacements and betterments are capitalized and depreciated over their estimated useful lives.

respective lease for tenant improvements for buildings and building improvements, 20 years for land improvements and the term of the Depreciation is provided using the straight-line method using estimated lives of 30 to 40 years

### Restricted Cash

Restricted cash consists of the following (in thousands)

Funds held in trust as additional security required under the terms of certain secured notes payable

Security deposit funds based on the terms of certain lease agreements

Funds held in escrow to complete the development of an office/laboratory facility



### Loan Fees and Costs

related loans and included in interest expense. Loan fees and costs, net of related amortization, totaled \$6,815,000 and \$5,810,000 as of December 31, 2001 and 2000, respectively, and are included in other assets on our balance sheets. Fees and costs incurred in obtaining long-term financing are amortized over the terms of the

### Rental Income

currently recognized as income, and expected to be received in later years, in deferred rent on are recognized on a straight-line basis over the respective lease term. We include amounts included in accrued expenses as unearned rent on our balance sheets. our balance sheets. Amounts received currently, but recognized as income in future years, are Rental income from leases with scheduled rent increases, free rent and other rent adjustments

### Interest Income

Interest income was \$923,000, \$1,025,000 and \$1,013,000 in 2001, 2000, and 1999, respectively, and is included in interest and other income in the accompanying statements of income

### Leasing Costs

costs, net of related amortization, totaled \$14,559,000 and \$11,652,000 as of December 31, 2001 and 2000, respectively, and are included in other assets on our balance sheets Leasing costs are amortized on a straight-line basis over the term of the related lease. Leasing

# Fair Value of Financial Instruments

rate approximates the market rate for this loan. amount of our secured note receivable approximates fair value because the applicable interest The carrying amount of cash and cash equivalents approximates fair value. The carrying

> \$290,886,000 and \$204,786,000, respectively. December 31, 2001 and 2000, the fair value of our secured notes payable was approximately based on borrowing rates we believe we could obtain with similar terms and maturities. As of The fair value of our secured notes payable was estimated using discounted cash flows analyses

### Net Income Per Share

as well as the dividends declared per share of common stock: The following table shows the computation of net income per share of common stock outstanding,

Common dividends declared per share	Net income per common share – diluted	Net income per common share - basic	Weighted average shares of common stock outstanding – diluted	Add: dilutive effect of stock options	Weighted average shares of common stock outstanding – basic	(dollars in thousands, except per share amounts) Net income available to common stockholders	For the Year Ended December 31
\$ 1.84.8	\$ 1.64 <b>\$</b>	8 1.67 \$	16,206,178	234,719	\$5, <b>\$</b> 53,459	\$ 26,611 \$	2001
\$ 1.72 \$	\$ 1.52 \$	\$ 1.55 \$	16,209,178 14,699,478 13,670,568	238,767	95,953,459 14,460,711 13,525,840	22,	2000
\$ 1.69	\$ 1.46	\$ 1.48	13,670,568	144,728	13,525,840	20,	1999 i

### Operating Segments

herein represents all of the financial information related to our principal operating segment. We view our operations as principally one segment and the financial information disclosed

income at regular corporate tax rates. qualify as a REIT in any taxable year, we will be subject to federal income tax on our taxable idated financial statements for the years ended December 31, 2001, 2000 and 1999. If we fail to taxable income, no federal income tax provision has been reflected in the accompanying consolstockholders. Since we believe we have met these requirements and our distributions exceeded organizational and operational requirements and distribute all of our taxable income to our As a REIT, we are not subject to federal income taxation as long as we meet a number of

\$1.69 per share, respectively. During 2001, 2000, and 1999 we declared dividends on our Series A preferred stock of \$2.375, \$2.375 and \$1.4184 per share, respectively. During 2001, 2000 and 1999, we declared dividends on our common stock of \$1.84, \$1.72 and





### Sanda Pagantas

Hantel proportios consist of the following (in thousands):

As of December 31 Leuri	1002 1002	600X
T.ASHING.	000000000000000000000000000000000000000	0.00000
Building and improversants	C39/100	575,212
Tonent and other improvements	1078/63	62,622
	ESA'CO	737,207
Losa cecumulated dagreciation	Tologo of Tologo	(62,554)
	\$30 a.m.	8.870.939

Twenty-nina of our rantal proportion are encoundered by deeds of trust and assignments of rents and lesson associated with the properties (see Note 3). The net book value of these properties as of Decamber 31, 2001 is 5341,201,000.

We lease system under noncestreetable leases with remaining terms of one to 15 years.

As of Dagendor 36, 2001, epopoximently 82% of our leases (on a square footage basis) require that the lease pay substantially all texas, maintened, insurance and colain other operating expenses upplied to the leased procedies.

We artifulize Literast to properties under development or redevelopment during the pariod that asset is undergoing entivities to propertie the interval out. Total interval aspiralized for the years ended December 31, 2001, 2000 and 1000 was \$11,671,000, \$7,710,000 and \$3,793,000, respectively. Total interest incurred for the years ended December 31, 2001, 2000 and 1000 were \$50,990,000, \$33,932,000 and \$22,702,000, respectively.

Minimum lesso payments to be received under the terms of the operating lesse agreements, excluding expense reimbursements, as of December 31, 2001, are as follows (in thousands):

S 538,57	
265,76	ไม้ดายต์รื่อก
33,84	2003
76,61	2005
82,58	200%
ya'su	2003
Amour 8 88,82	2002
Anount	, JOSA

00

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5



## Station Man Castino

In connection with the acquisition of a life science facility in San Diego, California, in March 1929, we made a \$5,000,000 loan to the scale tenent of the property, fully scenario by a first ecole of trust on contain improvements at the property. The loan bears interest at a rate of 17% per year, payable monthly, and is due March 25, 2002. The loan is cross-deficited to the lease with the cole tenemt.



# The State of Graff and Cleans for the state of the state

We have an unaccured line of eredit that provides for borrowings of up to \$325 inillion. Borrowings under the line of eredit bear interest at a floating rate beard on our cleation of either a LIBOR based rate or the line of the beard rate of the beard rate into heigher of the beard sets or the floating rate plue 0.5%. For each LIBOR based advance, we must cleat to fix the rate for a period of one, two, three or six menths.

The line of eradit contrins financial covenants, indirelag, among other things, meintenance of minimum net worth, a total liebilities to gross asset value retio end o fixed charge coverage resio. In addition, the terms of the line of eradit restrict, among other things, cortain hydestrands, inclostedness, distributions and margers. The line of eradit expires isomeny 2003 and provides for an extension (provided there is no default) for an editional one-year period upon notice by the company and consent of the participating banks. As of December 31, 2001, bearowings outstanding on the line of eradit carried a verigited everye interestrate of 34.22%.

In Oxiobar 2001, we obtained a \$50 million unscarred tarm local which bases interest at a floating rate based on our election of either a UBICH based rate or the higher of the banks reference rate and the Federal Firms rate plus 0.5%. For each UBION based advance, we must elect to fix the rate for a period of one, two, three or six menths. The term local centeins financial covernants substantially similar to finese on our line of credit. As of December 31, 2001, the term local carried a weighted everage interest rate of 3.59%. Aggragate berrewings under the line of aredit and the term lenn are limited to an amount based on the not operating income derived from a pool of uncheunbered assets. Accordingly, as we acquire or complete the development of additional uncheunbered proparties, aggregate berrewings available under the line of credit and the term loan will increase up to the incknum of \$375 million. Under these provisions, as of December 31, 2001, aggregate berrowings under the term loan well increase up to the incknum of \$375 million. Under these provisions, as of December 31, 2001, aggregate berrowings under the term loan were limited to \$350 million.

We utilize interest rate every agreements to hadge our exposure to variable interest rates esnosisate with our unscarred line of excita. These agreements involve an exchange of fixed and floating interest payments without the exchange of the underlying principal emount (the "notional amount"), Interest recived under all of our every egreements to based on the one-month LIROH rate. The not difference between the interest peld and interest received is reflected as an adjust-ment to interest expense.

The following table summarizes our interest rate swap agreements (dollars in thousands):

8(7,453)					
(2,035)	6.350% December 31, 2002	6.350%	50,000	January 2001 January 31, 2001	January 2001
(3,033)	Way 31, 2003	7.070%	50,000	May 31, 2001	July 2000
\$(2,335)	January 2, 2003	6,995%	\$50,000	May 20, 2000	April 2000
Fair Valuo	Termination Date	Interest Pay Rate	Effective Date   Notional Amount   Interest Pay Rate	Effective Date	Transaction Date

Effective January 1, 2001, we adopted Statement of Financial Accounting Standards No. 133 (SFAS 133), "Accounting for Derivative Instruments and Hedging Activities," as amended by Statement No. 138, "Accounting for Certain Derivative Instruments and Certain Hedging Activities." SFAS 133, as amended, establishes accounting and reporting standards for derivative financial instruments such as our interest rate swap agreements. Specifically, SFAS 133 requires us to reflect our interest rate swap agreements on the balance sheet at their estimated fair value. We use a variety of methods and assumptions based on market conditions and risks existing at each balance sheet date to determine the fair values of our interest rate swap agreements. These methods of assessing fair value result in a general approximation of value, and such value may never be realized. As of January 1, 2001, the adoption of SFAS 133, as amended, resulted in qualifying interest rate swap agreements reported on the balance sheet as a liability of approximately \$3.5 million, with a corresponding reduction to accumulated other comprehensive income, a separate component of stockholders' equity.

All of our interest rate swap agreements meet the criteria to be deemed "effective" under SFAS 133 in reducing our exposure to variable interest rates. Accordingly, we have categorized these instruments as cash flow hedges.

On January 22, 2001, we terminated an interest rate swap agreement with a notional amount of \$50 million, an interest pay rate of 7.25% and a maturity of December 31, 2001. The terminated interest rate swap agreement was replaced with the 6.350% interest rate swap agreement as shown in the table above. The fair value of the terminated interest rate swap agreement at the date of termination (a liability of \$950,000) was transferred to the replacement 6.350% interest rate swap agreement. During 2001, approximately \$475,000 was reclassified from other comprehensive income to interest expense. Approximately \$475,000 will be credited against interest expense during 2002. These adjustments result in an effective interest pay rate for the 6.350% interest rate swap agreement of 7.30% for 2001 and 5.40% for 2002.

As of December 31, 2001, our interest rate swap agreements have been reported in the accompanying balance sheet at their fair value as other liabilities of approximately \$7.5 million. The offsetting adjustments were reflected as deferred losses in accumulated other comprehensive income of \$7.0 million. Balances in accumulated other comprehensive income are recognized in earnings as swap payments are made.

8 245,131 8 200,256



## elgeAsed coton pornecs

Secured notes payable consist of the following (in thousands):

As of December 31, 2001, all of our scenred notes payable, except for the 7.155% note and the construction lean scenred by the two properties in San Francisco, CA, require mouthly payments of principal and interest. The 7.155% note requires monthly payments of interest and sceni-annual payments of principal. The construction lean scenred by the two properties in San Francisco, CA, requires monthly payments of interest only.

Future principal payrnents due en secured notes payable es of December 31, 2001, are as follows (in thousands):

Amount   S 8,333	18008	0005	3,723	50%5%	0/35/1		8538	2621.76D
Year 2002	2003	2004	2005	2008	Hisroefter	Subtotal	Unamoritised promitting	



# incica of Carminon Scott

In April 2001, we sold \$00,000 shares of corrings stock to institutional investors. The shares were issued at a price of \$36.44 per share, resulting in aggregate proceeds of approximately \$16.8 million, not of offering costs.



### Randral Penacettan

In connection with the acquisition of a property in San Diego, California, in 2001 and three properties in Gaithereburg, Maryland, in 2000, we assumed escured notes payable. The following table summerizes these transactions (in thousands):

	5002	2020
Aggregate purchase price	022020	\$ 16,000
Socured notes payable assumed	SCO &	10,040
Cash paid for the proportios		\$ 7,860

In 2001 and 2000, we incurred \$2,841,000 and \$1,831,000, respectively, in non-cash stock compensation expense.



# Control Start Care Press Source

Series A Cumulative Hedeomable Praferred Stock

In June 1989, we complete a quelic offering of 1,453,500 shares of our 0,50% Series A currelative redeemeble preferred stock (including the phares issued upon exercise of the underwriters' over-allotrator option). The shares were issued at a price of \$25,00 per share, resulting in eggregate proceeds of approximately \$35.9 million, not of underwriters' discounts and commissions and other offering costs. The dividends on our Series A preferred stock are cumulative and events from the fate of original issuence. We pay dividends quantedly in arrears at an annual rate of \$2.376 per share. Our Series A preferred stock has no attract meturity, is not subject to any sinking fund or mandatory redeemedone and is not redeemed and under 1, 2004, except in order to preserve our status as a Hill Investors in our Series A preferred stock or after June 11, 2004, we may at our option, redeem our Saries A preferred stock, in whole or in part, at any time for cash at a redemption price of \$25.00 per share, plus accured and unpaid dividends.

Preferred Stock and Excess Stock Authorizations

Our charter authorizes the tissuance of up to 100,000,000 shares of preferred stock, of which 1,543,500 shares were issued and outstanding as of Pocember 31, 2001. In addition, 200,000,000 shares of "excess stock" (as defined) are authorized, none of which were issued and outstanding at December 31, 2001.



# Commitments and Contingencies

# Employee Retirement Savings Plan

Effective January 1, 1997, we adopted a retirement savings plan pursuant to Section 401(k) of the Internal Revenue Code ("Code") whereby our employees may contribute a portion of their compensation to their respective retirement accounts, in an amount not to exceed the maximum allowed under the Code. The plan provides that we contribute eight percent of our employees' salary (subject to statutory limitations), which amounted to \$353,000, \$254,000 and \$185,000, respectively, for the years ended December 31, 2001, 2000 and 1999. Employees who participate in the plan are immediately vested in their contributions and in the contributions of the company.

## Concentration of Credit Risk

We maintain our cash and cash equivalents at insured financial institutions. The combined account balances at each institution periodically exceed FDIC insurance coverage, and, as a result, there is a concentration of credit risk related to amounts in excess of FDIC insurance coverage. We believe that the risk is not significant.

We are dependent on rental income from relatively few tenants in the life science industry. The inability of any single tenant to make its lease payments could adversely affect our operations. As of December 31, 2001, we had 194 leases with a total of 167 tenants and 45 of our 82 properties were each leased to a single tenant. At December 31, 2001, our three largest tenants accounted for approximately 14.1% of our aggregate annualized base rent.

We generally do not require collateral or other security from our tenants, other than security deposits. In addition to security deposits held in cash, we hold \$10.8 million in irrevocable letters of credit available from certain tenants as security deposits for 37 leases as of December 31, 2001.

### Commitments

As of December 31, 2001, we were committed under the terms of certain leases to complete the construction of buildings and certain related improvements at a remaining aggregate cost of \$12.9 million.

As of December 31, 2001, we were also committed to fund approximately \$39.1 million for the construction of building infrastructure improvements under the terms of various leases and for certain investments.



# Stock Option Plans and Stock Grants

### 1997 Stock Plan

In 1997, we adopted a stock option and incentive plan (the "1997 Stock Plan") for the purpose of attracting and retaining the highest quality personnel, providing for additional incentives and promoting the success of the company by providing employees the opportunity to acquire common stock pursuant to (i) options to purchase common stock; and (ii) share awards. As of December 31, 2001, a total of 409,623 shares were reserved for the granting of future options and share awards under the 1997 Stock Plan.

Options under our plan have been granted at prices that are equal to the market value of the stock on the date of grant and expire ten years after the date of grant. Employee options vest ratably in three annual installments from the date of grant. Non-employee director options vest immediately on the date of grant. The options outstanding under the 1997 Stock Plan expire at various dates through November 2011.

In addition, the 1997 Stock Plan permits us to issue share awards to our employees and non-employee directors. A share award is an award of common stock which (i) may be fully vested upon issuance or (ii) may be subject to the risk of forfeiture under Section 83 of the Internal Revenue Code. For employees, these shares generally vest over a one-year period and the sale of the shares is restricted prior to the date of vesting. For non-employee directors, these shares are generally fully vested upon issuance and the sale of the shares is not restricted. During 2001, we awarded 122,555 shares of common stock. These shares were recorded at fair value with a corresponding charge to stockholders' equity. The unearned portion is amortized as compensation expense on a straight-line basis over the vesting period.

We have elected to follow Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees" ("APB 25") and related Interpretations in accounting for our employee and non-employee director stock options, stock grants and stock appreciation rights. Under APB 25, because the exercise price of the options we granted equals the market price of the underlying stock on the date of grant, no compensation expense has been recognized. Although we have elected to follow APB 25, pro forma information regarding net income and net income per share is required by Financial Accounting Standards Board Statement No. 123, "Accounting for Stock-Based Compensation." This information has been determined as if we had accounted for our stock options under the fair value method under Statement 123. The fair value of the options issued under the 1997 Stock Plan was estimated at the date of grant using a Black-Scholes option pricing model with the following weighted average assumptions for 2001, 2000 and 1999:

Weighted average expected life of the options	Volatility factor of the expected market price	Dividend yield	For the Year Ended December 31 Risk-free interest rate
5.2 years	22.37%	4.49%	2001 A.C.3%
5.2 years 5.8 years	23.20%	4.78%	2000 5.15%
5.8 years	24.60%	5.66%	1989 6.48%

For purposes of the following pro forms disclosures, the cetimated fair value of the options is amortized to expanse over the options' vesting periods (in thousands, except per shere information):

For the Year Ended December 31		2031		2000		(039	
Pro forme net income available to common stockholders	08	3.85,080	& %	\$ 21,532	8	3 19,083	
Pro forma net income per common shere:							
· Besic	တ	1.05	୯୭	1.65	ಕಾ	1.69	
·· Difuted	φ (		୧୭	1.43	හ	1.40	

A suminary of the stock option ectivity under cur 1997 Stock Plan and related information for the years ended December 31, 2001, 2000 and 1993 follows:

		3032		CCCC		1933
	Stock Octions	Avaighted Avaingd Exercise Price	Stock	Welghted Average Exercise	Stock	Maighthd Avenage Exercise Price
Outstending-boginning of year	CCC*5CC	027.73	785,000	\$ 25.37	821,500	\$27.49
Granted	0021635 -	0.203	316,000	33.76	70,500	25.56
Expreised	[030'000]	50.30	(145,334)	26.38	(75,000)	20.11
Porfeitod	(000'58)	8278	(82,500)	32.45	(32,000)	23.53
Outstanding- and of year	C#5*350	888733	000,103	\$ 27.73	785,600	\$28.37
Exercisable at and of year	000/139	(25.50)	619,001	\$ 23.94	626,003	\$24.36
Woighted everage feir velue of eptions						
granted		න් ල		S 5.51		S 5.28

Exercise prices for options outstanding as of December 31, 2001 range from \$20.00 to \$35.51. The weighted average contractual life of options outstanding is 7.3 years.



Osmany Francia Sew Counting

Following is a summary of consolidated financial information on a quarterly basis for 2001 and 2000:

(In thousands, categot par share amounts)	) tặ	1st Quartor	2nd (	2nd Overter	3rc	3rd Outsiter	વ્યા	dh Quenter ,
!lavanuss	(ii) (i)	essies s	ණ භ	8 \$2,800	<u>ග</u>	03/1/23 0	(4) (6)	\$ 38,000
Not income evallable to common steckholders	భ		တ	6 6,433	Ø	\$ 0,3850	82	CERT.
Net incomo por share:								
Regio	භ	0.60	တ	070	<b>%</b>	397	ಲು	: : : :
Dilutad	တ	39.3	တ	030	က	070	တ	0.26
\$22.0				 				
Revenues	(A)	\$ 23,952	8	\$ 24,910	<u>හ</u>	8 28,575	69	\$ 25,553
Not income eveilable to common stockholders	တ	\$ 4,827	ဖာ	8 5,425	တ	8 5,615	ಅ	3,486
Not income per ahero:								
- Basis	ශ	0.36	49	0.30	ග	38.0	ধ্য	0.49
· Ollufied	නේ 	0.35	ග '	0.38	တ '	0.38	₩,	0.41



# Subsequent Event (Unaudited)

In January 2002, we completed a public offering of 2,300,000 shares of our 9.10% Series B cumulative redeemable preferred stock (including the shares issued upon exercise of the underwriters' over-allotment option). The shares were issued at a price of \$25.00 per share, resulting in aggregate proceeds of approximately \$5.1 million, net of underwriters' discounts and other offering costs. The dividends on our Series B preferred stock are cumulative and accrue from the date of original issuance. We pay dividends quarterly in arrears at an annual rate of \$2.275 per share. Our Series B preferred stock has no stated maturity, is not subject to any sinking fund or mandatory redemption and is not redeemable prior to January 22, 2007, except in order to preserve our status as a REIT. Investors in our Series B preferred stock generally have no voting rights. On or after January 22, 2007, we may, at our option, redeem our Series B preferred stock, in whole or in part, at any time for cash at a redemption price of \$25.00 per share, plus accrued and unpaid dividends.

In February 2002, we sold 418,970 shares of our common stock. The shares were issued at a price of \$39.46 per share, resulting in aggregate proceeds of approximately \$16.4 million (after deducting underwriting discounts and other offering costs).

# Private Securities Litigation Reform Act of 1985

Certain statements made in this Annual Report constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Given these uncertainties, prospective and current investors are cautioned not to place undue reliance on such forward-looking statements. We disclaim any obligation to update such factors or to publicly announce the result of any revisions to any of the forward-looking statements contained in this or any other document. Readers of this Annual Report should also read our other publicly filed documents for further discussion.

# Report of Independent Auditors

Alexandria Real Estate Equities, Inc. and subsidiaries

To the Board of Directors and Stockholders of Alexandria Real Estate Equities, Inc.

We have audited the accompanying consolidated balance sheets of Alexandria Real Estate Equities, Inc. and subsidiaries (the "Company") as of December 31, 2001 and 2000, and the related consolidated statements of income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2001. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Alexandria Real Estate Equities, Inc. and subsidiaries at December 31, 2001 and 2000, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 2001, in conformity with accounting principles generally accepted in the United States.

Los Angeles, California January 25, 2002

Egyland, 4. George

# Directors

# and Officers

Alexandric Besi Estate Equities, Inc. and subsidiaries

Aloxendria Hoal Entate Equities, Inc. end subsidiaries

Information

Corporate

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Jorry W. Sudersky Chairman of the Board of Directors, Alexandria Real Estato Equities, Inc.

Joel S. Marcus Chief Executive Officar, Alexendria Real Estata Equities, Inc. Jamos II. Richardson President, Alexandria Roal Estato Equitico, Inc.

Hichard B. Jennings President, Realty Capitel International, Inc. David W. Petrono Chairman of the Board, Housing Capital Corporation Anthony W. Bolomon Chairman, The Blackstone Alternate Asset Wanagement Advisory Board

Alen G. Welton, Ph.D., D.Sc. General Partner, Oxford BioScience Partners

Sariar Ciffeans

Joel S. Marcus Chief Excoutive Officer

James II. Richardson President Peter J. Nelson Chief Finencial Officor, Senior Vice President, Operations, Treasurer and Secretary

Vincont R. Ciruzzi Sonior Vica Prosident, Construction and Development

Commen Stock Listed on the New York Stock Exchange Symbol ARE

ayrindor raus: Cerporisto Cittan 135 North Los Robles Avenue Suito 250 Pasadena, CA \$1101 (935) 578-0777 Tremeter Agoms American Stock Transfor and Trust Company 59 Waldon Lanc New York, NY 10038 (212) 535-5100

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Anditors Ernst & Young LLP

Los Angalos, California

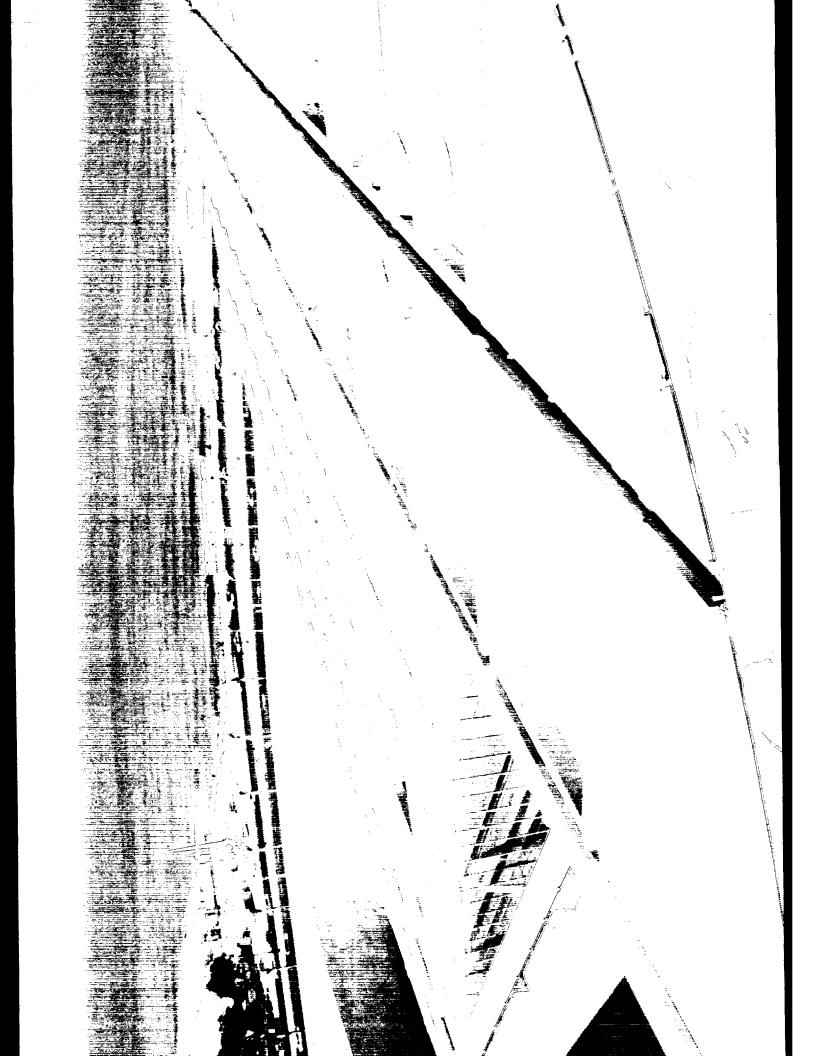
Amount Monday The Annual Meeting of Shareholders will be held at 11:00 a.m., April 29, 2002, at the Doubletree Hotel, Pasaciona, California. STS Learn CO-X
A copy of the Company's annual report to
the Securities and Exchange Cornmission on
Form 10-K is available without charge, upon
written request to:

investor Relations Alexandria Real Estato Equities, Inc. 135 North Los Robles Avonus Suito 250 Pesadone, CA 91101

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The common stock of Alexandria Heal Estate Equities, Inc. trades on the New York Stock Exchange (NYSE) under the symbol Affe. As of December 31, 2001, there were approximately 230 holders of record of the Company's common stock (excluding beneficial owners whose shares are held in the name of CEDE & Co.). The following table sets forth the quarterly high and low seles prices per share of common stock as reported on the NYSE and the distributions paid by the Company for the year ended December 31, 2001.

80.45 50.46 80.48 Per Share Distribution 834.15 834.64 536.93 100 \$33.13 \$9.8ES 841.53 837.43 841.00 October 1, 2001 to December 31, 2001 July 1, 2001 to September 30, 2001 January 1, 2001 to Merch 31, 2001 April 1, 2001 to June 30, 2001



ORCHESTRA / PAGE 15, COURTESY OF DR. ALAN WHEATS,	UNIVERSITY OF BATH, UR DESIGN: OPTO / PR	INTING: PRINT INTERNALIONAL	

### 5. DIRECTORS AND MANAGEMENT (2 (a)(b)(c)(e)and 17(a)(b)and (c))[7.B.1]

### 5.1 Directors

The directors of Afgem, including a summary of each of their backgrounds, are detailed below. All directors are South African.

Name	Age	Designation	Address
Michael John Nunn	40	Chairman and chief executive officer	SA Diamond Centre, 240 Commissioner Street, Johannesburg
Mervyn Shein	48	Group financial director	SA Diamond Centre, 240 Commissioner Street, Johannesburg
Dean Roy Cunningham	40	Non-executive director	1st Floor, Isle of Houghton, Boundary Road, Houghton
Sipho Mkhize	39	Non-executive director	19 Fredman Drive, Sandton
Andre Bekker	40	Non-executive director	19 Fredman Drive, Sandton
Christopher Hardy Boulle	28	Non-executive director	Kentgate, 64 Kent Road, Dunkeld

### **Executive directors**

### Michael John Nunn (40)

Chairman and Chief Executive Officer

For the first five years of his career, Mike was a commodity trader specialising in Africa. The next seven years were in manufacturing and marketing, followed by eight years in the coloured gemstone industry, of which three years was in gemstone mining in Zambia. He has extensive expertise in purchasing, grading, cutting, polishing and marketing of high value coloured gemstones. Mike is highly regarded within the South African and international gemstone industry and has a strong practical working knowledge of gemstone sourcing and mining in Africa.

### Mervyn Shein (48) BCom CA (SA)

Group Financial Director

Mervyn is a qualified Chartered Accountant with 20 years' experience, primarily in auditing. He joined Clicks Stores Limited shortly after qualifying, where he gained valuable commercial experience as group administration manager. Mervyn moved to Johannesburg in 1981 and was appointed audit manager at Sussman Goddard (now Ernst & Young). He joined Leveton Boner and Horwath as audit manager in 1986 and was admitted as partner in 1991. In 1993, Mervyn established his own practice, which he ran for five years before joining Afgem.

### Non-executive directors

### Dean Roy Cunningham (40) BSc. (Hons) (Mining Eng.)

Non-executive Director

Dean has spent 12 years in all aspects of the mining industry, including the financial evaluation of existing and new projects, various corporate finance work and the marketing of South African equities, both locally and internationally. He spent nine years as a mining analyst, during which time he won several awards. Dean was a director of Investec Securities, prior to establishing his own mining corporate advisory company, Mining Commodities Financing (Pty) Limited ("Micofin"). Dean is a non-executive director of both Afgem and The Afrikander Lease Limited, a listed gold mining company, amongst others. He is chairman of Afgem's remuneration committee and its audit committee.

### Sipho Mkhize (39) Pr. Eng, BSc (Hons) (Mech Eng), MDP

Non-executive Director

Sipho is a professional mechanical engineer with 12 years' experience in the chemical and heavy manufacturing industries. He has experience in project engineering, specialising in managing industrial projects. Sipho has also managed maintenance and production departments responsible for human resource planning, plant optimisation, training and safety. He is currently the Small Business Unit head of mining and minerals for the IDC, responsible for the development of mining projects. Sipho is a board member of Aluminium Management Company of Mozambique and Mossgas.

### Andre Bekker (40) BSc (Hons) (Geology), MDP

Non-executive Director

Andre has seven years' experience as a practising geologist with Rand Mines Ltd and Anglo American plc, accumulating a wealth of experience in coal and gold mining. He has been with the IDC for the past eight years, where he has dealt with all aspects of mining finance. He has been involved in loan and equity finance to the mining sector in a wide range of mineral products, including precious and base metals, precious stones, industrial minerals, gas and coal.

### Christopher Hardy Boulle (28) B.Com, LLB

Non-executive Director

Chris is a partner at HR Levin, Attorneys, Notaries and Conveyancers. He specialises in corporate, commercial and local and international tax law and has been involved in numerous acquisitions, mergers and listings on the JSE. He is currently studying for a Masters degree in Tax Law at the University of the Witwatersrand.

### 5.2 Management

Details of other senior management are as follows:

### AFGEM

### Alan Thomas Fung (48) BCom CA (SA)

Group Financial Manager

Alan has held positions at Ernst & Young, Reunert & Lenz Engineering and Willards Foods, where he was the management accountant for seven years. Prior to joining the Afgem Group, Alan was company secretary of Avis Southern Africa, overseeing 54 subsidiaries. Alan's expertise in the fields of accounting and finance are complemented by his strong management skills and team approach.

### Joanne Leigh Herbstein (23) BA (Hons) PDM

Corporate Communications Manager

Joanne graduated cum laude with an Honours degree at the University of the Witwatersrand, where she won the Standard Bank Scholarship and the EJA Loerincz Scholarship for Academic Excellence for four years. On graduating, Joanne was awarded the Dean's Merit Award for the top student in a professional degree. During her degree, Joanne was involved in numerous community development projects. She subsequently completed a post graduate diploma in Management and Business Administration at the Wits Business School, where she was awarded a full scholarship from The Executive Women's Club of South Africa. Joanne completed an internship at Investec Bank Limited. On completion of her studies, Joanne joined Afgem to manage investor relations and corporate communications.

### AFGEM MARKETING

### Lapidary Division

### Ivan Valentine Zelubowksi (31)

Divisional Manager

Ivan is a third generation master gemstone cutter and polisher with 11 years' experience, seven of which have been spent with Afgem. Ivan has extensive experience with cutting machinery and technology, as well as cutting factory development and management.

### Robert Andrew Burton (28)

Assistant Manager

Rob has a diploma in jewellery design and manufacturing and has five years' experience in the jewellery industry. He has held the position of brand and technical manager of leading watch distributors, including Tag Heuer, Jaeger le Coultre and Rado.

### Africa Division

### Marilyn Eve Chalmowitz (50)

Divisional Director

Marilyn has five years' experience in the coloured gemstone industry, particularly in the marketing of calibrated and loose gemstones, primarily tanzanite. She developed Afgem Marketing's calibrated gemstone division and continues to manage the marketing and sales in sub-Saharan Africa.

### Hayley Anne Henning (32) B.Soc.Sci

Sales and Marketing

Hayley has diplomas in public relations and marketing. She has a public relations background and an excellent working knowledge of all aspects of the gemstone industry. She has spent seven years with Afgem, having managed Afgem's Cape Town office for three years, following which she rejoined the head office to assume responsibility for sales and marketing in Afgem's Africa division.

### Overseas Division

### Candice Lauren Nunn (28)

Divisional Director

Candice has eight years' experience in the coloured gemstone industry: two years in purchasing, sorting and grading, four years as sales and marketing director of Montana after which she was appointed managing director of Afgem Marketing in early 1999. Over the past year, Afgem Marketing has significantly exceeded all its forecasts under her strategic management and guidance.

### Donna-Rae Taoussanis (27) BA

Brand Manager

Donna-Rae graduated in 1995 from the University of Witwatersrand with a Bachelor of Arts degree in Psychology and English. After completing a post-graduate diploma with a copywriting specialisation at the AAA School of Advertising, she worked in the advertising industry for three years as a strategic planner before joining Interbrand Sampson in February 2000. Donna-Rae has gained strategic communications experience across a broad spectrum of industries which have included the following clients: Ernst & Young, Proctor & Gamble, Alfa Romeo, Persetel Que Data, Ster Kinekor Pictures, MTN Africa, Lever Ponds, National Brands and Fedsure Health.

### Robyn Lesley Maclachlan (27) B.Soc. Sci

Sales and Marketing

Prior to completing her degree, Robyn spent two years working in Europe. On returning to South Africa, she joined a travel and tourism company, managing and marketing tours in Africa. She has broadbased experience both in sales and marketing, specifically in dealing with a US client base.

### MML

### Ami Ramadhan Mpungwe (48) B.A.(Hons) (International Relations and Political Science) Dip.Int.Law Non-executive Chairman

Ami recently retired as Tanzanian Ambassador to South Africa after spending 25 years in the diplomatic service. He is chairman of South African Airways (Africa Region) and Vertex Financial Services and holds directorships with numerous companies including the National Bank of Commerce (Tanzania) (a subsidiary of ABSA) and LTA Construction (Tanzania) Limited. Ami was recently awarded the highest honour which South Africa is able to confer on a foreign citizen, by President Mbeki: The Order of Good Hope.

### Kenneth Bruce Kemp Jones (43) Pr Eng, C Eng, BSc (Hons)(Eng)(Mining) FSAIMM, MIMM, ARSM Managing Director

Bruce has 25 years' experience in the mining industry with extensive corporate, project, production, technical and consulting expertise in gold, platinum, coal and base metal mining. He holds South African Mine Managers' Certificates of Competency

for metalliferous and coal mining. His experience spans major and significant highly complex underground and opencast operations to small-scale mining ventures in isolated regions. During his career, Bruce has been involved in project identification, due diligence and feasibility studies, project planning and implementation, in addition to various production management roles. After 23 years with Gold Fields of South Africa, where he became technical director of Gold Fields Coal, Bruce moved to Central Africa, where he held senior management and project management positions in the Democratic Republic of Congo and Zambia, restructuring and refocusing mining operations.

### Ernest de Kock (47) ACMA, IAC

Financial and Administration Manager

Ernest is a management accountant with 23 years' experience in integrated financial management, general management and systems implementation and control in a wide range of manufacturing and operational environments. He has held a variety of cost and management accountant positions with subsidiary companies of Afcol and Wormald International. He was financial manager to subsidiaries of Anglovaal Industries, Africa Glass, Reutech Systems and the Motor Company of Botswana. He spent two years as commercial manager of a Unilever subsidiary.

### Matheus ("Mike") Jacobus Visagie (35)

Security Manager

Mike is a security professional who has a wide range of qualifications specifically related to security management. He spent 15 years with the South African Police Services, rising to the position of Inspector. For two years prior to joining Afgem, he has been the security operations manager of New Africa Security, covering security operations for diamond projects in Central Africa.

### Henry Nyiti (34)

Resident Director

Henry has nine years' experience in gemstone mining, five of which were spent working underground in tanzanite mines. He owns and manages Tanzania's most successful chrome tourmaline mine and is a highly regarded and respected businessman. Henry has a long-standing relationship with Afgem and manages community relations and local logistics for MML in Tanzania.

### Mining Division

### Glenham ("Glen") Shaw (53)

Plant Manager

Glen has over 30 years' operational and management experience in metallurgy, including nine years at various operations within the Meterex Group of companies as plant superintendent, gold plant manager and metallurgical superintendent (for Graphtan). Prior to joining Afgem, Glen worked at Barbrook Gold Mine, Falconbridge and Havelock Asbestos Mines Limited.

### Gordon McCormack (36)

Underground Manager

Gordon began his career as a trainee miner in 1984. During the 15 years he has spent in the industry, he has acquired considerable hands on experience in every aspect of underground mining management, including formal training up to mine overseer level. Gordon's experience includes rock blasting, shaft sinking and shaft construction, loss control, staff training and development. Prior to joining Afgem, he was with Ermelo Mines and Bosveld Mines.

### Trading Division

### Richard John Beek (28) B.Bus. Sc. (Hons) (Finance) G.G. (GIA)

Divisional Manager

Richard is a graduate germologist of the Germological Institute of America. He has five years' experience in the germstone industry, one of which was spent in the USA. He has a strong accounting and finance background, and has worked at Investec Securities, marketing South African equities internationally. Richard has extensive working knowledge of all aspects of the germstone business, particularly purchasing, grading and the pricing of rough germstones.

### 5.3 Appointment, qualification, remuneration and borrowing powers of directors (2(b)(c) (e), 17c) [7.A.12, 7.B.3, 7.B.4, 7.B.5, 7.B.6, 7.B.14]

The relevant provisions of the articles of association of Afgem and its subsidiaries concerning the appointment, term of office, qualification, remuneration and borrowing powers of the directors of the Afgem Group are contained in Annexure 5 to this prospectus.

The forecast total aggregate remuneration and benefits to be paid to the executive and non-executive directors of Afgem for the year ending 28 February 2001 and the actual amounts paid for the year ended 29 February 2000 are as follows:

	2000 R '000	2001 R '000
Executive		
Salaries and benefits	600	1 800
Non-executive		
Fees	-	60

Save for their future participation in Afgem's share incentive scheme, there will be no variation in the remuneration receivable by any of the directors as a consequence of the listing of Afgem.

Each executive director has entered into a service agreement with Afgem, which restrains him from engaging, directly or indirectly, in any competing business internationally. The restraints continue for so long as the executive director is employed by Afgem and for a period of two years from the date of termination of employment.

No payment has been made to any of the directors or to any entity in which they are beneficially interested in the three years preceding the date of this prospectus to induce them to become directors or for services rendered by them in connection with the promotion or formation of Afgem.

### **5.4** Interests of directors (17(a)(b))[7.B.13, 7.B.15, 7.B.16]

Upon completion of the private placing, the interests of directors in Afgem's ordinary share capital are reflected below:

Director	Ber	neficial	Non-b	eneficial
	Direct	Indirect	Direct	Indirect
M J Nunn	38 396 920	18 750		
M Shein				3 839 692
D R Cunningham		1 006 787		

There has been no change in the directors' interests since the end of the previous financial year end and the date of this prospectus.

M J Nunn has an equity interest in Micofin, the corporate adviser to the listing of Afgem. The directors have no material interests in any transactions entered into by Afgem during the current or preceding three financial years and which remain in any respect outstanding or unperformed and which are or were unusual in their nature or significant to the business of Afgem.

C H Boulle is a partner at HR Levin, Attorneys, Notaries and Conveyancers, the legal adviser to the listing of Afgem.

No payment has been made to any director or to any company in which he is beneficially interested, directly or indirectly, or of which he is a director, or to any partnership, syndicate or other association of which he is a member in the three years preceding the date of issue of this prospectus either to induce him to become or to qualify him as a director or otherwise for services rendered by him or by any of the aforementioned entities in connection with the promotion and formation of Afgem.

### 5.5 Corporate Governance

Afgem intends to comply with the recommendations of the King Report on Corporate Governance with respect to, inter alia, the ratio of executive to non-executive directors. Afgem has established a remuneration committee and an audit committee.

In addition, Afgem practises a participative relationship with its employees and is committed to the creation of a climate of employment equity as a strategic priority, together with the training and development of personnel, so that they are able to meet their maximum potential.

The board recognises the need for a suitably qualified and highly regarded non-executive chairman. In the interests of compliance with the recommendations of the King Report, Afgem is actively exploring suitable options. The position will be filled at such time that a suitable candidate is found.

### 6. MAJOR SHAREHOLDERS [7.A.26, 7.A.28]

As at the date of publication of this prospectus, the only shareholders holding 5% or more of the issued share capital of Afgem are as follows:

Shareholder	Number of shares	Percentage held
M J Nunn	38 396 922	36.4%
IDC	29 451 851	27.9%
		2.1.0

### 7. SHARE CAPITAL

(6 (a)(ii)(iii), 8(a)(c), 10, 11 and 20(a)) [7A.4, 7A.6(b)(c), 7A.7, 7A.8, 7A.9, 7A.10, 7C.2(f), 7C.6, 7C.17, 7D.1 (c)]

### 7.1 Share capital and alterations

The authorised and issued share capital of Afgem is as follows:

	R
Authorised	
250 000 000 ordinary shares of 0,001 cents each	2 500
Issued after the private placing	
135 820 182 ordinary shares of 0,001 cents each	1 358
Share premium (before the expenses of the private placing and after the listing)	143 633 764
Unissued	
114 179 818 ordinary shares of 0,001 cents each	

The unissued ordinary shares are and will remain under the control of the directors until the next annual general meeting, subject to the provisions of Sections 221 and 222 of the Act and the JSE Listings Requirements. The directors have been given a general authority to issue ordinary shares for cash until the next annual general meeting in terms of the JSE Listings Requirements. This authority is currently subject to certain constraints, including the following:

- the ordinary shares must be issued to public shareholders;
- the aggregate issues in any one financial year may not exceed 10% of the issued ordinary share capital, or in any 36 month period, 15% of the issued ordinary share capital; and

the maximum discount at which the ordinary shares may be issued is 10% of the weighted average traded price of the
ordinary shares over the 30 days prior to the date that the price of the issue is determined or agreed to by the directors
of Afgem.

The directors have been given the authority to buy back the Company's shares, subject to the Listings Requirements of the JSE. The JSE Listings Requirements currently require, inter alia:

- the repurchase of securities is implemented on the JSE "open market";
- the Company is authorised thereto by its articles;
- the Company is authorised by shareholders in terms of a special resolution of the Company, in general meeting, which authority shall only be valid until the next annual general meeting, provided it shall not extend beyond 15 months from the date of the resolution;
- the general repurchase is limited to a maximum of 10% of the Company's issued share capital of that class at the time the authority is granted;
- repurchases must not be made at a price more than 5% above the weighted average of the market value for the securities for the five business days immediately preceding the repurchase; and
- a paid press announcement containing full details of such acquisition will be published as soon as the Company has acquired shares constituting, on a cumulative basis, 3% of the number of shares in issue prior to the acquisition.

The necessary resolutions by virtue of which the ordinary shares have been created or issued, have been passed.

All of the authorised and issued shares in the Company are of the same class and rank pari passu in every respect.

Any variation of rights attaching to the shares will require the consent of shareholders in general meeting in accordance with the articles of association of Afgem.

In accordance with Afgem's articles of association, at any general meeting every shareholder present in person or by proxy (or, if a body corporate duly represented by an authorised representative) shall have one vote on a show of hands, and on a poll every shareholder present in person or by proxy shall have one vote in respect of each share held.

No offer has been made to the public for the subscription or the sale of shares in Afgem during the three year period preceding the date of this prospectus.

At the date of the issue of this prospectus, Afgem has no outstanding loan capital.

None of the shares of Afgem is listed on any stock exchange, other than in terms of the proposed listing.

Apart from operating leases in the normal course of business, the Afgem Group utilised no off-balance sheet financing to fund its assets at 29 February 2000.

Alterations to the share capital of Afgem which have occurred from the date of incorporation of the Company to the date of this prospectus are set out below:

- the Company was incorporated on 17 April 1998 with an authorised share capital of 1 000 ordinary shares of R1 each, of which 100 ordinary shares were issued to the subscribers to the memorandum at par;
- on 23 November 1998, each ordinary share was sub-divided into 100 000 ordinary shares of 0,001 cents each, resulting in an authorised share capital of 100 000 000 shares of 0,001 cents each;
- on 23 November 1998, the authorised share capital was increased from R1 000, comprising 100 000 000 ordinary shares of 0,001 cents each, to R2 500 comprising 250 000 000 ordinary shares of 0,001 cents each by the creation of 150 000 000 ordinary shares of 0,001 cents each;
- on 25 June 1999, 10 500 000 ordinary shares were issued at par to Trilateral Management Services (Proprietary) Limited;
- also on 25 June 1999, 44 500 000 ordinary shares were issued to the vendors of Montana and Rolling Stone at a premium of 9,999 cents per share;

- also on 25 June 1999, 25 833 334 ordinary shares were issued in terms of a private placing memorandum ("PPM") at a premium of 43,547390 cents per share;
- on 15 September 1999, 14 351 848 ordinary shares were issued at a premium of 43,547390 cents per share in terms of the PPM; and
- on 18 February 2000, 232 500 ordinary shares were issued at 43,548390 cents per share to Afgem's legal adviser for services in terms of a prior arrangement, rendered at a premium of 43,547390 cents per share.

On date of listing the following shares will be issued which are included in the private placing of 30 402 500 ordinary shares:

- 340 000 ordinary shares at 400 cents per share excluding VAT to Invested Bank Limited for services rendered, with a one year restriction on the sale of the shares;
- 312 500 ordinary shares at 400 cents per share excluding VAT to Micofin for services rendered, with a three month restriction on the sale of the shares;
- 1 485 000 ordinary shares at 400 cents per share to discharge the obligations of the Company to the African Development Bank in accordance with the agreement detailed in 7.2 below; and
- 765 000 ordinary shares at 400 cents per share to discharge the obligations of the Company to the Eastern and Southern African Trade and Development Bank in accordance with the agreement detailed in 7.2 below.

### 7.2 Options or preferential rights in respect of shares (10(a)(b)(d)(f)) [7.A.24 (a) (b) (f)]

Other than as specified below and in terms of the share incentive scheme, the salient features of which are set out in Annexure 4 to this prospectus, and the agreements and the private placing mentioned below, there are no other contracts or arrangements, either actual or proposed, whereby any option or preferential right of any kind has been or will be given to any person to subscribe for any shares in Afgem other than the agreement between the African Development Bank and the Eastern and Southern African Trade and Development Bank ("the Banks"), MML and Afgem, in terms of which the Banks would, at listing, receive from Afgem US\$1 500 000 worth of shares at the listing price of 400 cents per share, based on a fixed Rand/US\$ exchange rate of 6.00/1 for the mining licence ML 8/92.

Afgem has granted certain key employees options to acquire a total of 250 000 ordinary shares at a price of 100 cents per ordinary share. The options are exercisable between 1 August 2001 and 31 August 2001.

### 7.3 Salient features of the share incentive scheme

The salient features of the share incentive scheme are set out in Annexure 4 to this prospectus.

### 8. REPORTING ACCOUNTANTS' REPORT, PROFIT HISTORY AND DIVIDEND POLICY (6(f), 25(1)(a)(b), 25(3)(a) and 29) [7.E.3(f)]

### 8.1 Reporting accountants' report

The information set out below should be read in conjunction with the reporting accountants' report on the Afgem Group as contained in Annexure 1 to this prospectus.

### **8.2** Audited profit history (30) [7.E.3 (a), 7.E.6, 7.E.18]

The table below contains the audited results of the Afgern Group for the financial year ended 29 February 2000 as extracted from the reporting accountants' report contained in Annexure 1 to the prospectus.

	Year ended
	29 February 2000
·	R'000
Turnover	8 526
Cost of sales	4 350
Gross margin	4 176
Investment income	515
Expenses	3 071
Operating profit	1 620
Finance costs	114
Profit before taxation	1 506
Taxation	393
Profit after taxation	1 113
Outside Shareholders' interest	79
Retained profit for period	1 034
Weighted average number of ordinary shares in issue ('000)	70 474
Earnings per ordinary share (cents)	1.47

No adjustments have been made to the audited profit history.

### 8.3 Utilisation of funds [7.B.12]

The funds to be raised by Afgem in terms of this prospectus amount to R121,6 million, which will be utilised by Afgem as follows:

R '000
8 811
21 629
1 150
81 010
9 000

### **8.4** Dividend policy (8c) [7.C.11, 7.C.12, 7.E.7 (a)]

Pursuant to the Company's growth objectives, its current policy is to employ its earnings into acquiring new investments. The Company will review this dividend policy on an ongoing basis after taking into account new investment opportunities and available cash resources.

Should dividends be paid in future, the articles of association of Afgem provide that all unclaimed dividends may be invested or otherwise made use of by the directors for the benefit of Afgem until claimed, provided that dividends unclaimed for a period of not less than three years from the date on which such dividends became payable and not previously forfeited may

be forfeited by the directors for the benefit of Afgem. All entitlements to dividends below R5 and fractional entitlements to ordinary shares are to be aggregated, sold on the JSE and the proceeds thereof donated to a registered charity nominated by the directors.

### 9. COMPETENT PERSON'S REPORT (24)

SRK, the competent person, has prepared, at the request of Afgem, a report on the financial feasibility of Afgem. The cash flow forecasts and the income estimates are based upon the operational and economic assumptions as detailed in its CPR set out in Annexure 2 to this prospectus.

### 10. ASSETS, LIABILITIES AND OTHER FINANCIAL INFORMATION (9(a), 25(3)(b)(c) and 31)

The information set out below should be read in conjunction with the reporting accountants' report on the Afgem Group as contained in Annexure 1 to this prospectus.

### 10.1 Balance sheets [7.E.3 (b), 7.E.7 (b) (c)]

Set out below are the audited consolidated balance sheets of the Afgem Group at 29 February 2000 before the private placing and after the private placing.

	Audited -	Pro-Forma -
	Before	After
	29 February 2000	29 February 2000
	R'000	R'000
ASSETS		
Fixed assets	31 878	31 878
Non-current assets		
Deferred Taxation	125	125
Current assets	11 936	115 734
Inventory	5 880	5 880
Accounts receivable	2 950	2 950
Cash and cash equivalents	3 106	106 904
Total assets	43 939	147 737
EQUITY AND LIABILITIES		
Equity capital and reserves		
Share capital	22 025	134 823
Distributable reserves	1 034	1 034
Non-current liabilities		
Long term liabilities	12 775	3 775
Deferred taxation	149	149
Outside shareholders' interests	3 079	3 079
Current liabilities		
Accounts payable and provisions	4 509	4 509
Taxation	368	368
Total equity and liabilities	43 939	147 737
Number of shares in issue ('000')	70 474	135 857
Net asset value per ordinary share (cents)	32.72	99.24

### 10.2 Cash flow statement [7.E.3(c)]

The consolidated cash flow statement of the Afgem Group for the 12 months ended 29 February 2000 is set out in Annexure 1 to this prospectus.

### 10.3 Significant accounting policies, notes to the balance sheets and cash flow statement [7.E.3 (d)]

The significant accounting policies, notes to the balance sheets and the consolidated cash flow statement of the Afgem Group for the period ended 29 February 2000 are set out in the reporting accountants' report contained in Annexure 1 to this prospectus.

### 10.4 Adequacy of capital (22) [7.E.12, 7.E.13]

The directors of Afgem are of the opinion that:

- the Afgem Group's working capital resources after the private placing set out in 11.2.1 will be adequate for its current and foreseeable future requirements; and
- the ordinary issued share capital of Afgem is adequate for the purposes of the business of the Afgem Group for the foreseeable future.

### 10.5 Advances and borrowings (9(a) and (b)) [7.A.13, 7.A.15, 7.A.18, 7.A.19, 7.A.20, 7.A.21, 7.A.22, 7.A.23]

The liabilities of the Afgem Group arose during the normal course of business. Afgem has an unsecured long term liability with the African Development Bank and Eastern and Southern African Trade and Development Bank ("the Banks") arising from the purchase of the SML. The amount payable to the banks is pursuant to an agreement of sale between the banks and MML. The balance of the purchase consideration shall be settled by the issue of shares in Afgem to the value of US\$1 500 000 at listing price, and 5% of the annual gross profit, as defined in the agreement, for 5 years subject to a minimum payment of US\$100 000 per annum commencing from the first year MML commences mining operations. Afgem has no loan capital outstanding.

There are no advances or borrowings to or from directors and managers of the Afgem Group or other material loans receivable, other than those disclosed in Annexure 1.

The borrowing powers of Afgem and its subsidiaries have not been exceeded during the past three years.

### 10.6 Capital commitments, lease payments and contingent liabilities [7.A.17]

### 10.6.1 Capital commitments

As at the date of this prospectus, Afgem has no material commitments for capital expenditure.

### 10.6.2 Lease payments

Details of immovable property leased are set out below [7.D.6]

Owner	Description of premises location	Area (m²)	Date of termination	Current rental(pm)
Carlson Investment	240 Commissioner Str	328	31 December 2001	R14 887
Share Block	Johannesburg			
(Proprietary) Limited	2001			

Details of contingent liabilities are contained in Annexure 1.

### 10.6.4 Material changes subsequent to 29 February 2000 [7.E.16]

There have been no material changes to the capital commitments, lease payments and contingent liabilities or the financial or trading position of the Afgem Group between 29 February 2000 and the date of this prospectus other than as detailed in Annexure 1.

### 10.7 Immovable property owned or leased (6 (c))[7.D.6]

The Afgem Group does not own any immovable property. Details of immovable property leases are set out in 10.6.2 above.

### 10.8 Inter-group finance [7.D.7]

Details of inter-group loans are contained in Annexure 1.

### 10.9 Directors' statement as to material changes (31) [7.D.4]

Save as disclosed in this prospectus and in the reporting accountants' report contained in Annexure 1 to this prospectus, no material changes in the assets or liabilities of the Afgem Group have taken place between 29 February 2000 and the date of this prospectus. Save as disclosed in this prospectus, the Afgem Group's business has not changed materially since incorporation.

### 11. PARTICULARS OF THE PRIVATE PLACING AND LISTING ON THE JSE (18 (a), 19, 20(a), 21 and 23) [7.A.8, 5.13, 7.C.1, 7.C.2 (f), 7.C.4, 7.C.5, 7.C.6, 7.C.8]

### 11.1 Times and dates of opening and closing of the private placing

The private placing will open at 09h00 on Thursday, 27 July 2000 and will close at 12h00 on Tuesday, 1 August 2000.

### 11.2 The private placing

- The board of directors of Afgem has resolved that a listing of Afgem will, subject to JSE approval, be obtained through a private placing for subscription of 30 402 500 ordinary shares of 0,001 cents each at a subscription price of 400 cents per share, to raise R121,6 million. The minimum number of shares that must be placed, in the opinion of the directors, is 18 750 000.
- 11.2.2 30 402 500 ordinary shares of Afgem are being offered to selected institutions, investors and advisers at an issue price of 400 cents per ordinary share. Application in terms of this prospectus must be made on the application form that is attached to this prospectus.
- 11.2.3 The directors of Afgem reserve the right to accept or refuse any application, either in whole or in part, or to accept some applications in full and others in part, or to abate any or all applications in such manner as they may determine, in their sole and absolute discretion, subject to the approval of the JSE.
- At least 30% of the private placing will be offered to the sponsoring broker, which will in turn offer a reasonable proportion of this allocation to other broking members.

### 11.3 Applications and completion of application forms

- Applications may be made only on the attached application form. Photocopies or other reproductions will be rejected.
- 11.3.2 Applications are irrevocable and may not be withdrawn once received by the transfer secretaries.

- Application forms must be completed in accordance with the provisions of this prospectus and the instructions set out on the relevant application form.
- Payment may only be made by cheque or banker's draft. Postal orders, cash or telegraphic transfers will not be accepted. The cheque or banker's draft must be attached to and submitted with the relevant application form. Cheques must be crossed, marked "non-transferable" and made payable in favour of "Afgem Offer". Money held in "blocked Rand" accounts may be used to apply for shares subject to paragraph 11.7 below.

Application forms together with payment must be lodged with:

Computershare Services Limited 1st Floor, Edura 41 Fox Street Johannesburg, 2001

or posted at the risk of the applicant concerned to:

Computershare Services Limited P O Box 61051 Marshalltown, 2107

so as to be received by not later than 12h00 on Tuesday, 1 August 2000.

Applicants are advised to take into consideration postal delivery times when posting applications, as no late postal deliveries will be accepted.

- 11.3.5 Each envelope should contain one application form and must be clearly marked "Afgem Offer".
- 11.3.6 No receipts will be issued for applications and remittances and applications will only be regarded as complete when the relevant cheque/banker's draft has been paid. All cheques/banker's drafts will be deposited immediately on receipt by the transfer secretaries. Should any cheque or banker's draft be dishonoured, the directors may in their absolute discretion regard the relevant applications as revoked or take such other steps in regard thereto as they may deem fit.
- 11.3.7 Each application will be regarded as a single application except one received from a nominee company.

  Applications received from nominee companies must state the number of principals covered by the application in the appropriate block on the relevant application form and must be completed in the manner prescribed therein.
- 11.3.8 Applications must be for a minimum of 100 shares and in multiples of 100 shares thereafter.

### 11.4 Acceptance conditional on a listing

Subject to a spread of shareholders acceptable to the JSE, the Committee of the JSE has granted a listing, in terms of Section 169 of the Act, from Tuesday, 8 August 2000 of 135 820 182 ordinary shares of 0,001 cents each or 127 070 182 shares in the event of achieving a minimum subscription of 18 750 000 shares, which will be the entire issued ordinary share capital of Afgem after the private placing. The listing will be under the abbreviated name "Afgem" in the "Diamonds: Mining Resources" sector of the JSE list. Application has been made to the JSE for the renaming of the "Diamonds: Mining Resources" sector to "Diamonds and Gems: Mining Resources" sector.

### 11.5 Application monies

- 11.5.1 The amount due on application is payable in full on application in the currency of South Africa.
- 11.5.2 All monies received in respect of applications will be held by the transfer secretaries pending fulfilment of the conditions set out in paragraph 11.4 above.

If the conditions set out in paragraph 11.4 above are not fulfiled, or in the event of unsuccessful or partly successful applications, application monies will be refunded by the transfer secretaries, by cheque (crossed "non-transferable") drawn on a Johannesburg bank in South African currency, posted by ordinary mail, at the risk of the applicant, on or about Tuesday, 8 August 2000. Interest will not be paid on monies refunded.

### 11.6 Issue of shares

- All shares issued in terms of this prospectus will be allotted subject to the provisions of Afgem's memorandum and articles of association and will rank pari passu in all respects, including ranking for dividends, with the existing issued shares of Afgem.
- 11.6.2 Afgem will use the "certified transfer deeds and other temporary documents of title" procedure approved by the JSE and only "block" certificates will be issued for the shares allotted in terms of this prospectus.
- 11.6.3 Share certificates will be posted by registered post to each applicant, at the applicant's risk on or about Tuesday, 8 August 2000.
- Share certificates will be posted to the address shown on the relevant application form. No contrary instruction will be accepted. Afgem and the transfer secretaries accept no liability for share certificates that may be lost in the post. No request for the issue of replacement share certificates will be considered before Tuesday, 22 August 2000, and thereafter only in writing and accompanied by an indemnity, the cost of which will be borne by the shareholder concerned.

### 11.7 Exchange Control Regulations

The following summary is intended as a guide and is therefore not comprehensive. If applicants are in any doubt hereto, they should consult their professional adviser.

### 11.7.1 South African Exchange Control Regulations

- 11.7.1.1 A former resident of the common monetary area who has emigrated from South Africa may use blocked Rand to purchase ordinary shares in terms of this prospectus.
- 11.7.1.2 All payments in respect of subscriptions for ordinary shares by non-residents using blocked Rand must be made through an authorised dealer in foreign exchange.
- 11.7.1.3 Ordinary share certificates issued in respect of ordinary shares purchased with blocked Rand in terms of this prospectus will be endorsed "non-resident" in accordance with the Exchange Control Regulations of South Africa. Share certificates will be placed under the control of the authorised dealer through whom the payment was made.
- 11.7.1.4 If applicable, refund monies payable in respect of unsuccessful applications for ordinary shares in terms of this prospectus, emanating from blocked Rand accounts, will be returned, in terms of the South African Exchange Control Regulations, to the authorised dealer administering such blocked Rand accounts for credit of such applicants' blocked Rand accounts.

### 11.7.2 Applicants resident outside the common monetary area

- 11.7.2.1 A person who is not resident in the common monetary area should obtain advice as to whether any governmental and/or other legal consent is required and/or whether any other formality must be observed to enable a subscription to be made in terms of the private placing.
- This prospectus is not an offer in any area of jurisdiction in which it is illegal to make such an offer. In such circumstances, this prospectus and the application form are sent for information purposes only.
- 11.7.2.3 All share certificates issued to non-residents of South Africa will be endorsed "non-resident" in accordance with the Exchange Control Regulations of South Africa.

### 12. EXPENSES OF THE PRIVATE PLACING AND LISTING (15) [7.B.12]

The expenses of the private placing and the listing are estimated at R8 811 258 and include inspection fees of R19 996 and a listing fee of R93 364 payable to the JSE. The balance of the estimated expenses relate to printing, publishing and distribution costs of R188 800, fees payable to professional advisers of R3 980 000, placing fees of R2 750 000, stamp duties of R304 025 and a contingency for other costs of R1 475 103. All expenses will be for the account of Afgem, will be paid out of the proceeds of the private placing and will be set off against the share premium account.

### 13. MATERIAL CONTRACTS (12 (a)(b)(c) and 16(a))[7.F.1, 7.D.9, 7.D.10, 7.H.7

The material contracts which have been entered into by the Afgem Group during the two years immediately preceding the date of this prospectus, other than in the ordinary course of business, are detailed in Annexure 6.

- 13.1. Afgem has not entered into any promoters' agreements during the three years immediately preceding the date of this prospectus.
- 13.2. Save for the private placing fees payable in terms of paragraph 12 above, no commission or consideration has been paid by Afgem during the three years immediately preceding the date of this prospectus.

### 14. LITIGATION STATEMENT [7.D.11]

There are no legal or arbitration proceedings which had a material effect, or have had during the 12 months preceding the date of this prospectus, a material effect on the financial position of the Afgem Group and Afgem is not aware of any such pending or threatened proceedings.

### 15. YEAR 2000 COMPLIANCE

The Year 2000 problem had no impact on the businesses of Afgem and no problems were encountered.

### 16. DIRECTORS' RESPONSIBILITY STATEMENT [7.B.17]

The directors of Afgem, whose names are given in paragraph 5.1, collectively and individually accept full responsibility for the accuracy of the information given and certify that, to the best of their knowledge and belief, no other facts have been omitted from this prospectus which would make any statement herein false or misleading and that they have made all reasonable enquiries to ascertain such facts and that this prospectus contains all information required by law.

### 17. REGISTRATION OF THE PROSPECTUS [7.C.9]

An English copy of this prospectus was registered in terms of Section 155(1) of the Act by the Registrar of Companies in Pretoria on Thursday, 20 July 2000, together with:

- 17.1 the written consent of the attorneys, investment house, sponsoring broker, competent person, corporate adviser and transfer secretaries named in the corporate information section of this prospectus to act in the capacities stated and to their names being stated in this prospectus, none of these consents having been withdrawn prior to registration;
- the written consent of KPMG Inc. Chartered Accountants (SA), to the inclusion in this prospectus of its report in the form and context in which it appears, which consent likewise had not been withdrawn prior to registration;
- 17.3 the written consent of Professor Reyno Scheepers from Stellenbosch in the form and context in which it appears, which consent likewise, had not been withdrawn prior to registration;

### HEST AVAILABLE COPY

- 17.4 the written consent of SRK, to the inclusion in this prospectus of its report in the form and context in which it appears, which consent likewise had not been withdrawn prior to registration; and
- 17.5 a copy of each of the agreements referred to in paragraph 13 above under the heading "Material Contracts", required to be lodged in terms of Section 152 (1) of the Act.

The prospectus is issued in compliance with the provisions of Section 145 (1) and 148 (1) (a) of the Act. The relevant number of each of the paragraphs of Schedule 3 of the Act, which applies to this prospectus, is given in brackets in the appropriate heading.

### 18. PARAGRAPHS OF SCHEDULE 3 TO THE ACT WHICH ARE NOT APPLICABLE (50)

The following paragraphs of Schedule 3 to the Act are not applicable: 1(b), 2(d), 6(d), 6(e)(ii), 6(g), 6(h), 8(b), 8(d), 9(b), 10(e)(e), 12(d)(e), 13, 14, 16(b), 18(b), 20(b), 21(a)(i)(iii), 21(b), 25(2), 26, 27, 28, 30 and 32 to 48.

### 19. DOCUMENTS FOR INSPECTION (16(a)) [7.G.1]

Copies of the following documents will be available at Afgem's registered office, at any time during business hours from Thursday, 27 July 2000 to Tuesday, 8 August 2000:

19.1	the memoranda and articles of association of the Afgem Group;
19.2	the audited financial statements of Afgem for the financial year ended 29 February 2000;
19.3	the signed copy of the report of KPMG Inc. Chartered Accountants (SA), dated 14 July 2000 which is included as Annexure 1 to this prospectus;
19.4	the signed copy of the CPR of SRK, dated 14 July 2000, which is included as Annexure 2 to this prospectus;
19.5	the share incentive scheme;
19.6	the written consent of KPMG Inc. Chartered Accountants (SA), to the publication of its report dated 14 July 2000 and references thereto in the form and context in which it is included in this prospectus;
19.7	the written consent of SRK, to the publication of its CPR dated 14 July 2000 and references thereto in the form and context in which it is included in this prospectus;
19.8	the written consents of the attorneys, commercial bank, investment house, sponsoring broker, corporate adviser and transfer secretaries named in the corporate information section of this prospectus and Professor Reyno Scheepers of Stellenbosch to act in those capacities;
19,9	the options which were granted to certain key employees to acquire 250 000 ordinary shares at a price of 100 cents per ordinary share;
19.10	the material contracts referred to in paragraph 13 of this prospectus;
19.11	the service agreements referred to in paragraph 5.3 of this prospectus; and
19,12	the Special Mining Licence No. SML8/92 issued to MML.

Signed in Johannesburg by or on behalf of all the directors of Afgem

**M J Nunn** 17 July 2000 M Shein

D R Cunningham

S Mkhize

A Bekker

C H Boulle

### ,Annexurre 3



. Annexure: 1

### **INDEPENDENT REPORTING ACCOUNTANTS' REPORT (25(1) (b))**

"The Directors
African Gem Resources Limited
Private Bag X1
Excom 2023

14 July 2000

Dear Sirs

Independent Reporting Accountants' Report on the African Gem Resources Limited Group

### 1 INTRODUCTION

At your request, and for the purposes of complying with the Johannesburg Stock Exchange ("JSE") Listings Requirements and inclusion in the Prospectus of African Gem Resources Limited ("Afgem"), we have compiled the information as set out below.

The Board of Directors of Afgem have resolved to privately place 30 402 500 ordinary shares of 0.001 cents each ("the private placing") and have agreed to the subsequent listing of the entire issued share capital of Afgem, being 135 820 182 ordinary shares of 0.001 cents each on the "Diamonds: Mining Resources" sector of the JSE list on 8 August 2000.

### 2 HISTORY AND ACQUISITIONS

Afgem (Registration number 1998/007292/06) was incorporated in the Republic of South Africa on 17 April 1998 as African Gem. Resources (Proprietary) Ltd. It converted to a public company on 14 September 1998.

### 2.1 Acquisitions made by Afgem since incorporation

Afgem has made the following acquisitions since incorporation:

- 100% of the share capital of African Gem Marketing (Proprietary) Ltd ("Afgem Marketing"). Afgem Marketing, (registration number 1998/0024798/07) was incorporated on 10 December 1998 in South Africa. Afgem acquired Afgem Marketing as a shelf company with effect from 11 December 1998. The company remained dormant until 1 March 1999 when it acquired two businesses as detailed below;
- 75% of the share capital of Merelani Mining Limited ("MML") (registration number 35046), MML was incorporated on 22 October 1998 in Tanzania as Mererani Mining Limited. The name was changed to Merelani Mining Limited on 24 June 1999. MML remained dormant from the date of incorporation until the acquisition by Afgem. MML acquired certain assets and the mining licence from Graphtan Limited ("Graphtan") with effect from 1 July 1999; and
- 100% of Afgem International Limited ("Afgem International") (registration number 332749) which was incorporated in the
  British Virgin Islands ("BVI") on 6 July 1999. Afgem was the sole subscriber to the memorandum and articles of Afgem
  International on incorporation.

### 2.2 Acquisitions made by Afgem Marketing, a wholly owned subsidiary of Afgem, since incorporation

Afgem Marketing has made the following acquisition from the date of incorporation:

• the business as a going concern and certain assets and liabilities of The Montana Precious Group (Proprietary) Limited ("Montana"), (registration number 1993/002376/07) with effect from 1 March 1999.

Montana acquired the business and certain assets of Rolling Stone Marketing CC ("Rolling Stone") (CK No 93/05115/23), a going concern, with effect from 1 March 1999 and this business was on-sold and included in the sale of the business and certain assets of Montana to Afgem Marketing.

### 3 DIRECTORS' RESPONSIBILITY

The directors of Afgem are responsible for the preparation of the prospectus to which this report relates and the information contained therein, and for the financial information from which the accountants' report has been prepared.

### 4 SCOPE AND BASIS OF PREPARATION

### 4.1 Trading results

### Results for the year ended 29 February 2000

We have extracted, without adjustment, the historical audited results of the Afgem Group for the year ended 29 February 2000 from the audited annual financial statements.

### Results for the periods 28 February 1996 to 1999

MML was dormant until it acquired certain of the assets and mining licence of Graphtan with effect from 1 July 1999. Graphtan was previously a graphite mining company and we have, therefore, not extracted the profit history relating to the assets and mining licence acquired as MML is engaged in the mining of tanzanite.

Afgem International was incorporated on 6 July 1999 and, therefore, does not have trading results for periods prior to the year ended 29 February 2000.

Afgem Marketing acquired the business and certain fixed assets and inventory of Montana with effect from 1 March 1999. Separate accounting records of sales by product were not historically maintained by Montana and Rolling Stone. We were, therefore, unable to extract the profit history relating to the inventory items acquired by Afgem Marketing for the periods prior to the year ended 29 February 2000.

### 4.2 Balance sheet

The balance sheet as at 29 February 2000 was extracted from the audited financial statements of Afgem for the year ended 29 February 2000.

A comparative balance sheet has not been provided, as the Afgem Group was not in place as at 28 February 1999.

### 4.3 Cash flow statement

The cash flow statement as at 29 February 2000 was extracted from the audited financial statements of Afgem for the year ended 29 February 2000.

A comparative cash flow statement has not been provided, as the African Gem Group was not in place as at 28 February 1999.

### 5 AUDIT SCOPE AND OPINION

### 5.1 African Gem Resources Limited

We have acted as auditors to the Afgem Group for the year ended 29 February 2000. Our audit was conducted in accordance with statements of South African Auditing Standards. These standards require that we plan and perform the audit to obtain reasonable assurance that the historical financial information is free from material misstatement. We believe that our audit provides a reasonable basis for our opinion and we have reported on the financial statements for the year ended 29 February 2000 without qualification.

### 6. ACCOUNTING POLICIES OF THE AFGEM GROUP

The annual financial statements and group annual financial statements have been prepared on the historical cost basis and in accordance with generally accepted accounting practice and in terms of the requirements of the Companies Act.

The principal accounting policies are as follows:

### Basis of consolidation

The group financial statements incorporate the assets, liabilities and results of the operations of the company and all its subsidiaries. The results of subsidiaries acquired or disposed of during a financial year are included from the effective dates of acquisition or to the effective dates of disposal, as appropriate. All significant inter-company transactions have been eliminated on consolidation.

Investments in subsidiaries, classified as long-term assets, are carried on the balance sheet at the lower of cost and directors' valuation. The directors' valuation of unlisted investments in subsidiaries is calculated based on expected returns or underlying net asset value as deemed appropriate in each case.

### Foreign investments

The foreign subsidiaries are determined to be integrated foreign operations. Transactions and resulting non-monetary items are translated at the exchange rates ruling when the transactions occurred. Income statement items are translated at the appropriate weighted average exchange rates for the period. At year end, monetary items are translated at the ruling exchange rates at the balance sheet dates. Translation gains and losses are taken to income for the period.

### Fixed assets and depreciation

### Pre-production expenditure

Feasibility, development, exploration and all other costs relating to the development of the mine are capitalised until commercial production commences. Certain administration costs incurred in the holding company have also been capitalised to pre-production expenditure. When commercial production commences, these costs will be amortised over the life of the mine on a unit-of-production method.

### Mining assets, furniture and fittings and other equipment

Depreciation is provided on the straight line method on the cost of assets over their estimated useful lives. No depreciation is provided on certain mining assets while the group is in a pre-production phase.

### Mining licence and surface buildings

Depreciation is provided on the straight line method over the period which the licence has been granted. No depreciation is provided while the group is in a pre-production phase.

### **Trademarks**

Trademarks are recognised at their historical cost and amortised over their useful lives.

### Research and development

Research and development expenditure is capitalised and written off over the period in which related future economic benefits are recognised. These costs are recognised only to the extent that they do not exceed the amount, net of anticipated related expenses, that is probably recoverable from related future economic benefits.

### Foreign currency transactions

Transactions denominated in foreign currencies are translated at the rates of exchange ruling at the transaction date.

Monetary assets and liabilities in foreign currencies are converted at the rates of exchange ruling at the balance sheet date.

Any foreign exchange gains or losses are dealt with in the income statement in the year in which they arise.

### Inventories

Stock of rough tanzanite mined during the bulk sample is carried at lower of cost and net realisable value. Cost includes direct mining costs and an appropriate portion of pre-production expenditure capitalised in the ratio that current production bears to total estimated production over the life of mine.

Materials and supplies are carried at lower of cost and net realisable value.

Finished goods inventory is carried at lower of cost and net realisable value. Cost comprises all costs of purchase, conversion and other costs incurred in bringing the inventory to its present location and condition, and an appropriate allocation of overheads.

### Deferred taxation

Deferred taxation is provided using the liability method on the comprehensive basis. Deferred taxation in terms of which the tax effects of all timing differences are accounted for represents the potential future liability or asset for taxation in respect of income and expenditure which are recognised for taxation purposes in periods different from those in which they are brought to account in the financial statements. Where the tax effects of timing differences give rise to a deferred tax asset, the asset is recognised only if there is reasonable assurance that future taxable income will be sufficient to allow the tax benefit of the loss to be realised.

### Environmental rehabilitation

The group has recorded a provision for environmental liabilities based on management's estimates of these costs. Such estimates are subject to adjustment based on changes in laws and regulations and as additional information becomes available. Estimated future costs will be charged against earnings over the estimated remaining life of mine.

### Comparative figures

Comparative figures have not been provided for the group as it did not trade for the previous financial period. No comparative income statement or cash flow statement for the company has been prepared as the company did not trade during the previous financial period.

### Revenue

Revenue of the group includes proceeds from the realisation of tanzanite mined during the bulk sample.

# 7. FINANCIAL INFORMATION REGARDING THE AFGEM GROUP

## 7.1 Audited results

The unadjusted audited results of the Afgem Group and Company for the year ended 29 February 2000 are presented below:

	Note	∫Group R	Company R
Revenue		8 525 852	
Cost of sales		4 349 827	
Gross profit		4 176 025	
Net foreign exchange (loss)/profit	7.5.1	(139 034)	552 123
Pre-production expenditure Operating expenses	7.5.15	(1 114 778) (2 931 040)	(420 759)
Operating (loss)/income	7.5.1	(8 827)	131 364
Interest received on cash and cash equivalents		514 660	497 188
Pre-production expenditure capitalised Finance costs	7.5.4	1 114 778 (114 633)	(19 200)
Net income before taxation		1 505 978	609 352
Taxation	7.5.2	392 989	182 992
Retained earnings after taxation		1 112 989	426 360
Outside shareholders' interest		79 283	
Income attributable to ordinary shareholders		1 033 706	426 360
Earnings and headline earnings per ordinary share (cents)	7.5.3	1,47	

## 7.2 Balance Sheets

The consolidated audited balance sheet of the Afgem Group as at 29 February 2000 and the audited balance sheets of the Company as at 28 February 1999 and 29 February 2000 are presented below:

	Note	Group 2000 R	2000 R	ompany 1999 R
Assets				
Fixed assets	7.5.4	31 878 552	47 038	~
Non current assets Deferred taxation	7.5.11	124 533 124 533	22 031 072	100
Interest in subsidiaries	7.5.7	-	22 031 072	100
Current assets Inventory	7.5.8	11 936 075 5 879 520	1 571 833	<del>-</del>
Accounts receivable	7.5.9	2 950 418	143 145	-
Cash and cash equivalents		3 106 137	1 428 688	_
Total assets		43 939 160	23 649 943	100
Equity and liabilities				
Capital and reserves				
Ordinary shareholders' interest		23 058 828	22 451 482	100
Outside shareholders' interest		3 079 283	-	_
Non current liabilities		12 924 200	149 200	
Deferred taxation	7.5.11	149 200	149 200	-
Long term liability Environmental rehabilitation provision	7.5.12 7.5.13	12 175 000 600 000	_	
Environmental rendolitation provision	7.0.10	000 000	L	
Current liabilities		4 876 849	1 049 261	
Accounts payable	7.5.14	4 508 527	1 015 469	-
Taxation		368 322	33 792	
Total equity and liabilities		43 939 160	23 649 943	100
Net asset value per share including intangibles (cents)	7.5.23	32.72		
Net asset value per share excluding intangibles (cents)	7.5.23	32.71		

# 7.3 Statement of changes in equity

Company	Note	Ordinary share capital	Share premium	Retained earnings	Total
		R	R	R	<b>R</b> .
Balance at beginning of year		100	-		100
Ordinary shares issued		954	22 050 401	-	22 051 355
Share issue expenses written off		_	(26 333)	-	(26 333)
Retained earnings after taxation		_		426 360	426 360
Balance at end of year	7.5.10	1 054	22 024 068	426 360	22 451 482
Group					· .
Balance at beginning of year		100	-	_	100
Ordinary shares issued		954	22 050 401	_	22 051 355
Share issue expenses written off		_	(26 333)	_	(26 333)
Retained earnings after taxation		_		1 033 706	1 033 706
Balance at end of year	7.5.10	1 054	22 024 068	1 033 706	23 058 828

## 7.4 Cash flow statements

The audited Afgem Group and Company cash flow statements for the year ended 29 February 2000 are presented below:

	Note	Group R	Company R
Operating income/(loss) before working capital changes	7.5.16	1 282 452	(413 127)
Establishment of working capital ,			
Increase in inventories		(5 879 520)	_
Increase in accounts receivable		(2 950 418)	(143 145)
Increase in accounts payable	7.5.17	4 055 390	1 015 469
Cash (utilised)/generated by operations		(3 492 096)	459 197
Interest received		514 660	497 188
Finance costs		(114 633)	(19 200)
Net cash (outflow)/inflow from operating activities		(3 092 069)	937 185
Cash flows from investing activities			
Investment to expand operations			
Net additions to fixed assets	7.5.19	(27 826 916)	(54 670)
Acquisition of shares in subsidiaries			(923)
Loans to subsidiaries			(21 477 926)
Net cash outflows from investing activities		(27 826 916)	(21 533 519)
Cash flows from financing activities			
Long term liability raised	7.5.20	12 000 000	-
Proceeds from issue of shares	7.5.21	22 025 022	22 025 022
Net cash inflows from financing activities		34 025 022	22 025 022
Cash and cash equivalents			
Net increase for the year		3 106 037	1 428 688
At the beginning of year		100	-
At end of year		3 106 137	1 428 683
-			

## 7.5 Notes to the trading results, balance sheets, and cash flow statements

	Note	Group R	Company R
7.5.1 Operating (loss)/income			
Operating (loss)/income is arrived at after taking into accoun	nt -		
Auditors remuneration		333 104	305 775
- fees		383 104	305 775
Less: capitalised to pre-production expenditure	7.5.15	(50 000)	<del>-</del>
Depreciation		100 487	7 632
Depreciation of fixed assets		523 623	7 632
Less: capitalised to pre-operating expenditure	7.5.4	(423 136)	
Net foreign exchange (loss)/profit		(139 034)	552 123
Profit on foreign exchange - unrealised		552 123	552 123
Loss on foreign exchange - realised		(63 020)	_
Loss on translation of foreign subsidiary		(628 137)	
Directors' emoluments		90 000	90 000
Executive services		729 360	90 000
Less: paid by subsidiaries		(639 360)	_
7.5.2 Taxation			
7.5.2 Taxation		Group	Company
		R	R R
South African normal taxation			
- current		368 322	33 792
- deferred tax liability		149 200	149 200
- deferred tax asset		(124 533)	- · · · · · · · · · · · · · · · · · · ·
*		392 989	182 992

#### 7.5.3 Earnings per share

Reconciliation of tax rate

Disallowed expenditure

Standard tax rate

Group income not subject to taxation

Current years' charge as a percentage of income before taxation

The calculation of earnings per ordinary share is based on net income attributable to ordinary shareholders of R1 033 706 and a weighted average of 70 473 827 ordinary shares in issue during the year.

Company

30,03

(0,03)

30,00

Group

26,10 3,93

(0,03)

30,00

7.5.4 Fixed assets	Depreciation rate	Cost	Accumulated depreciation	Carrying value
Company	70	R	R	R
Computer equipment	33,3	32 312	(7 478)	24 834
Furniture and fittings	16,7	1 233	(154)	1 079
Trade marks	20,0	9 125	•	9 125
Research and development costs capitalised	20,0	12 000	_	12 000
, , , , , , , , , , , , , , , , , , ,		54 670	(7 632)	47 038
Group				
Mining assets, furniture and fittings				
and other equipment				
Mining equipment	25,0	2 631 334	(109 478)	2 521 856
Motor vehicles	20,0	605 665	(3 000)	602 665
Computer equipment	33,3	84 591	(23 507)	61 084
Office equipment	16,7	20 036	(4 000)	16 036
Cutting equipment	25,0	292 662	_	292 662
Furniture and fittings	16,7	113 633	(10 042)	103 591
Armoury	25,0	38 085	-	38 085
Earthmoving equipment	25,0	1 338 443	-	1 338 443
Photographic equipment	33,3	1 050	=	1 050
Radio equipment	25,0	59 597	-	59 597
Surface buildings	8,3	9 114 886	-	9 114 886
Plant and machinery	25,0	7 721 973	(361 782)	7 360 191
Water tanks	25,0	27 917	-	27 917
Gemmological instruments	25,0	51 672	(11 814)	39 858
		22 101 544	(523 623)	21 577 921
Mining licence	8,3	3 000 000		3 000 000
Trade marks	20,0	9 125	-	9 125
Research and development costs capitalised	20,0	12 000	-	12 000
		21 125	-	21 125
Assets acquired		25 122 669	(523 623)	24 599 046

## 7.5.4. Fixed assets (continued)

Group	Note	Cost R	Accumulated depreciation R	Carrying value
Pre-production expenditure				
Audit fees		31 750	-	31 750
Consulting fees		76 434		76 434
Container transport		113 575	-	113 575
Depreciation	7.5.1	423 136	-	423 136
Development costs		3 802 610	-	3 802 610
Director's remuneration		39 687	-	39 687
Head office expenditure capitalised	7.5.15	1 114 778	_	1 114 778
Insurance		143 992	-	143 992
Legal		10 954	-	10 954
Rent		28 575	_	28 575
Repairs and maintenance		434 511	•=	434 511
Royalties		97 021	-	97 021
Salaries		301 352	_	301 352
Staff costs		276 910	_	276 910
Sundry costs		313 080	-	313 080
Travel and accommodation		450 818	<del>-</del>	450 818
		7 659 183	-	7 659 183
Less: allocation to bulk sample inventory		(379 677)		(379 677)
Pre-production expenditure		7 279 506	_	7 279 506
Total assets		32 402 175	(523 623)	31 878 552

## 7.5.5 Research and development

The company is in the process of designing and developing a machine to view laser markings on gemstones.

## 7.5.6 Trademarks

The name "Trueblue" has been registered as a trademark by the company.

No depreciation has been provided on trademarks and research and development as expenditure was incurred only at the end of the year.

7.5.7 Interest in subsidiaries		Issued share capital	Percentage holding
	R	R	%
African Gem Marketing (Proprietary) Limited			
Shares at cost	100	100	100
Loan	4 743 236		
	4 743 336		
Merelani Mining Limited (incorporated in Tanzania)			
Shares at cost	288	326	88*
Loan	15 396 157		
	15 396 445		
* Subsequent to the year end additional shares were issued to Tanzanian nationals reducing the investment to a 75% holding.			
Afgem International Limited (incorporated in the British Virgin Islands)			
Shares at cost	635	635	100
Loan	1 890 656		
	1 891 291		
Total shares at cost	1 023		
Loans	22 030 049		
	22 031 072		

All the above loans are unsecured, interest free and have no fixed terms of repayment with the exception of the loan to Afgem International Limited which will be repaid during the next financial period.

Group	Company
R	R
2 057 630	
	_
	_
5 879 520	
48 640	48 640
2 500	2 500
1 054	1 054
	2 087 029 3 542 164 199 139 51 188 5 879 520  48 640

7.5.11 Deferred taxation	Note	Group	Company
		R	R.
Timing differences			
- liability: African Gem Resources Limited		149 200	149 200
- asset: Merelani Mining Limited		94 158	
- asset: African Gem Marketing (Proprietary) Limited		30 375	
		124 533	,- 5.3
7.5.12 Long term liability			
no.12 going term industry			
African Development Bank; Eastern and Southern African	Trade and		
Development Bank		12 175 000	
The amount is payable to the above financial institutions pu	ursuant to		
an agreement of sale between the financial institutions and			
company's subsidiary, Merelani Mining Limited. In terms of			e e e e e e e e e e e e e e e e e e e
agreement, US\$1 500 000 (R9 000 000) will be settled be of shares at list price following the listing of the group on t			
rate of exchange has been fixed at R6:US\$1 in respect of			
of the loan. The balance will be settled out of the annual gr	,		
defined in the agreement, at 5% per annum for 5 years sub	oject to a		
minimum payment of US\$100 000 per annum, from the fire	st year the		
subsidiary commences mining operations.			
The loans are guaranteed by African Gem Resources Limit	ed. Interest		•
at 15% per annum will be charged on the loans only, shou			· · · · · · · · · · · · · · · · · · ·
repayment terms not be met. The loans are unsecured.			
7.5.13 Environmental rehabilitation provision			
Estimated liability on closure		1 000 000	
Estimated hability off closure		1 000 000	
Provision to date		600 000	-
7.5.14 Accounts payable		m	100 mg/s 100 mg/s
,			
Included in accounts payable are the following:			
- loans from directors		275 144	<u>- 1</u>
	•		
7.5.15 Pre-production expenditure			, w <sup>ar</sup>
Head office expenses capitalised			
Advertising and promotions	77 Ft -4	194 088	-
Audit fee General expenses	7.5.1	50 000 220 498	-
Consulting and professional fees		121 236	_
Directors' remuneration		180 000	-
Entertainment and travel		163 955	-
Staff costs		185 001	
		1 114 778	

	Note	Group R	Company R
7.5.16 Operating income/(loss) before working capital ch	anges		
Operating (loss)/income Adjustments for -		(8 827)	131 364
Unrealised foreign exchange profit		(552 123)	(552 123)
Pre-production expenditure capitalised		1 114 778	-
Depreciation	7.5.15	100 487	7 632
Loss on translation of foreign subsidiary		628 137	_
•		1 282 452	(413 127)
7.5.17 Accounts payable			
Per balance sheet		4 508 527	
Less: unrealised translation difference		(453 137)	
		4 055 390	
		*	
7.5.18 Taxation paid			
Income statement charge (refer note 7.5.2)	The state of the s	368 322	33 792
Amount outstanding at end of the year		(368 322)	(33 792)
Amount paid during the year			_
7.5.19 Cost of assets acquired (refer note 7.5.4)		32 402 175	
Adjusted for non cash items			
Mining licence acquired for shares		(3 000 000)	
Environmental rehabilitation provision on acquisition		(600 000)	
Depreciation capitalised		(423 136)	
Unrealised foreign exchange profit		(552 123)	
		(27 826 916)	
7.5.20 Long term liability			
Per balance sheet		12 175 000	
Less: unrealised translation difference		(175 000)	
		12 000 000	
7.5.21 Proceeds from issue of shares			
Ordinary shares issued		22 051 355	22 051 355
Share issue expenses written off		(26 333)	(26 333)
,		22 025 022	22 025 022

7.5.22 Rela	ated parties	Group	Company
		R	R.
The followi	ng related party transactions occurred during the year:		
Sales:	Merelani Mining Limited to Afgem International Limited	1 104 619	
	Afgem International Limited to African Gem Marketing		
	(Proprietary) Limited	849 695	
	African Gem Marketing (Proprietary) Limited to Afgem		
	International Limited	532 273	3202
			1.00
Manageme	ent fee charged to Merelani Mining Limited by Afgem International		1 1
Limited in r	respect of expatriate salaries	447 420	

#### 7.5.23 Net asset value per share

The calculation of the net asset value per share is based on net assets (including intangibles) of R23 058 828 and net assets (excluding intangibles) of R23 049 703 and a weighted average of 70 473 827 ordinary shares in issue during the year.

## 8. MATERIAL CONTINGENT LIABILITIES AND COMMITMENTS

The directors have confirmed that there are no material contingent liabilities and commitments as at 29 February 2000.

## POST BALANCE SHEET EVENTS

The directors have confirmed that no material changes have taken place in the financial position or nature of the Group between 29 February 2000 and the date of this report.

## 10 OTHER MATTERS

- 10.1 Accounts receivable and payable as at 29 February 2000 do not include any items other than those arising in the ordinary course of business.
- 10.2 In our opinion the provision for doubtful debts as at 29 February 2000 is adequate.
- There are no inter company profits reflected in the profit history of the Afgem Group for the year ended 29 February 2000.

## 11 CONCLUSION

We have extracted without adjustment, the results, the balance sheet and cash flow statement of the Afgem Group for the year ended 29 February 2000 from the audited annual financial statements. During the preparation of our report, nothing has come to our attention that would cause us to believe that the financial information of the Afgem Group is not fairly presented in all material respects, in accordance with generally accepted accounting practice.

Yours faithfully

#### KPMG Inc.

Chartered Accountants (SA)"

# Annexure 2

## AN INDEPENDENT COMPETENT PERSON'S REPORT

on the proposed listing of African Gem Resources Limited within the

"Diamonds: Mining Resources" sector of the

Johannesburg Stock Exchange

Application has been made to the JSE for the renaming of the

"Diamonds: Mining Resources" sector to

"Diamonds and Gems: Mining Resources" sector

#### Prepared for:

The Directors
African Gem Resources Limited
Suite 105
SA Diamond Centre
240 Commissioner Street
Johannesburg 2001
South Africa

#### Prepared by:

Steffen, Robertson and Kirsten (South Africa) (Proprietary) Limited SRK House 265 Oxford Road Illovo Johannesburg, 2196 South Africa

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## 1 INTRODUCTION

## 1.1 Background

Steffen Robertson and Kirsten (South Africa) (Proprietary) Limited ("SRK") has been commissioned by the Directors of African Gem Resources Limited ("Afgem") to prepare an independent competent person's report ("CPR") in connection with the proposed listing of Afgem in the 'Diamonds' section of the Mining Resources sector of the Johannesburg Stock Exchange ("JSE"). Application has been made to the JSE for the renaming of the "Diamonds: Mining Resources" sector to "Diamonds and Gems: Mining Resources" sector. The CPR has been prepared in compliance with Section 12.6 of the JSE Listings Requirements.

In this CPR, SRK provides the necessary assurances to the board of Afgem that the technical and economic data as presented in this report, including operating costs, capital expenditure, production and sales profiles, are valid and accurate as provided to and reviewed by SRK. In determining its opinion, SRK has made use of certain data and information provided by Afgem. The data, which have been taken in good faith, have formed the basis of the analyses and opinions expressed in this report.

SRK in conjunction with the Department of Geology at the University of Stellenbosch ("Stellenbosch") and Bateman Minerals and Industrial Limited ("Bateman") conducted a full feasibility study of the mining of the Merelani tanzanite deposit in the period June 1999 to June 2000. The Environmental Impact Assessment ("EIA") which had been compiled in 1993 for Graphtan Limited (In Receivership) ("Graphtan"), was updated in accordance with new laws of relevance to the project by JSB-ENVIDEP Limited (Environment and Development Consultants) ("JSB") linked to the Faculty of Engineering at the University of Dar es Salaam, Tanzania. The study presented a viable Base Case to an overall accuracy of  $\pm$  15%, based on the investigations and results to June 2000. The EIA prepared by JSB was subjected to audit by SRK.

## 1.2 Rationale for the Private Placing and Listing

SRK has been apprised of the rationale for the private placing and listing in as much as it may impact on the technical-economic performance of Afgem and its individual subsidiaries. This is detailed in paragraph 2 of this prospectus and is therefore not repeated here.

## 1.3 Basis of the Technical-Economic Appraisal

The technical-economic appraisal reported herein has been based on the following:

- the feasibility study on the Merelani Tanzanite Mine by SRK dated 26 June 2000 to bankable standards. This included
  numerous site visits, control of the bulk sampling project and examination of the processing plant, tailings dam, all
  existing surface structures and associated infrastructure;
- detailed examination of extensive and comprehensive documentation made available by Afgem and its operating subsidiaries in support of operational planning as contained in five year business plans, the strategic marketing plan and one year budgets;
- a review of all the plans in totality and the associated financial projections as prepared by Afgem and its operating subsidiaries; and
- full access to key mine and head office personnel for discussion and query.

SRK's approach in undertaking a review of the marketing and sales projections is detailed in Section 8. In summary, SRK has incorporated the following principles:

- · detailed review of historical performance, as reflected in the audited financial statements;
- in-depth questioning of marketing personnel regarding the assumptions and strategies used in developing the sales projections; and
- a thorough audit of the sales and operating cost projections as contained in the five year plan and operational budgets
  to ensure the assumptions and strategies adopted are correctly incorporated and are relevant to historical performance.

The Afgem valuation reported in Section 8 has been extracted from the financial model compiled by HSBC Investment Services (Africa) (Pty) Limited ("HSBC").

#### Valuation Base Case Price Structure

SRK has been apprised that HSBC has used inflation accounting principles to take account of the forecast US\$-based change in tanzanite selling prices and Rand to US\$ exchange rates. All conversions of US\$ denominated costs and prices have used an average exchange rate of 6.65:1 for the financial year ending 28 February 2001. All costs and revenues reflected in this report are given in money-of-the-day terms i.e. adjusted by inflation and the Rand:US\$ exchange rates.

#### 15 Life of Mine Plans

SRK's technical-economic appraisal presented in this CPR has been based on the life of mine ("LoM") plan and Mineral Resource and Ore Reserve estimates for the Merelani Tanzanite Mine as developed in the feasibility study. The LoM plan and Mineral Resource and Ore Reserve estimates were generated during March to May 2000.

The grade of the tanzanite-bearing reef was interpolated uniformly throughout the geological and resource model. All ore is theoretically extractable, given favourable geotechnical considerations. Consequently, it has not been necessary to include ore reserve sensitivities which may arise from fluctuations in commodity prices.

#### 1.6 Qualifications of Consultants

SRK is part of an international group ("the SRK Group") which comprises more than 500 professional staff, offering expertise in a wide range of resource engineering disciplines. The SRK Group's independence is ensured by the fact that it holds no equity in any project and that its ownership rests solely with its staff. This permits SRK to provide its client with conflict-free and objective recommendations on crucial judgement issues. SRK has a demonstrated track record in undertaking independent assessments of resources/reserves, project evaluations and reviews, Technical Adviser's Reports, CPR's and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. SRK has specific experience in transactions of this nature.

This CPR has been prepared, based on the feasibility study and a technical-economic review of Afgem's marketing operations, by a team of consultants from SRK's offices in Johannesburg during the period March to May 2000. These consultants are specialists in the fields of gemstone resource and reserve estimation and classification, steeply-dipping tabular orebody underground mining, rock engineering, metallurgical processing, hydrogeology and hydrology, tailings management, infrastructure, environmental management and mining economics.

In accordance with all such commissions, neither SRK nor any of its employees and associates employed in the preparation of this report has any beneficial interests in Afgem or its subsidiaries. SRK will be paid a fee for this work in accordance with normal consulting practice.

The individuals responsible for this CPR, who are listed below, have extensive experience in the mining industry and are members in good standing of appropriate professional institutions.

- Oskar Steffen, PrEng, FSAIMM, FSAICE, PhD;
- Herbert Waldeck, PrEng, MSAIMM, BSc Eng., MBA;
- Michael Harley, MSAIMM, PhD;
- Marcin Wertz, MSAIMM, BSc Eng.;
- Peter Weyers, PrEng, MSAICE;
- · Edward Matthews, MSAICE, BSc Eng.;
- · Jane Joughin, PrSciNat, MSc; and
- Andrew McDonald, CEng, PrM, MIMM, MAPMSA, MSc, MBL.

Certain sections of this CPR have been extracted from information included in the feasibility study which was provided by consultants to Afgem, as follows:

Geology: Prof. Reyno Scheepers, PrSciNat, MGSSA, MMSSA, PhD;

Metallurgy & Plant: Mark Cresswell, PrEng, ARSM, MSAIMM, MIMM, MSc; and

• Environment: Prof. Jamidu Katima, RegEng, MIET, MENATA, PhD.

These consultants have reviewed these extracts and have confirmed that they support the comments made in this CPR.

#### 2 AFGEM

#### 2.1 Introduction

This section gives a brief overview of Afgem, its marketing subsidiaries and the location of the Merelani Tanzanite Mine.

## 2.2 Company and Operating Structure

Afgem is a public unlisted investment holding company whose subsidiaries mine, beneficiate and market high-value coloured gemstones. Merelani Mining Limited ("MML") is a Tanzanian registered company which has as its main asset a mining licence encompassing around two-thirds of all known tanzanite resources and various plant, equipment and associated mine infrastructure purchased from Graphtan in July 1999. Afgem owns 75% of MML, while the balance is held in trust on behalf of Tanzanian citizens. MML will include a buying operation where rough tanzanite will be purchased from other miners and dealers in Tanzania. Afgem International Limited ("Afgem International") is a wholly-owned marketing company registered in the British Virgin Islands ("BVI") which will be used to develop long-term supply agreements in the international market. African Gem Marketing (Proprietary) Limited ("Afgem Marketing") is the South African based operating company which has three divisions:

- a Lapidary division which will cut and polish most of the tanzanite required by the Africa and Overseas divisions;
- an Africa division which will be involved in the wholesale marketing of coloured gemstones in Africa, with a focus on Southern Africa; and
- an Overseas division which will buy all the graded rough tanzanite produced or bought by MML. It will brand and sell
  polished gemstones to international wholesale buyers with a focus on the USA, Europe and the Far East.

Cutting requirements over and above those provided by Afgem's Lapidary division will be outsourced on a subcontractual basis. The corporate structure of Afgem is shown in Figure 2.1.

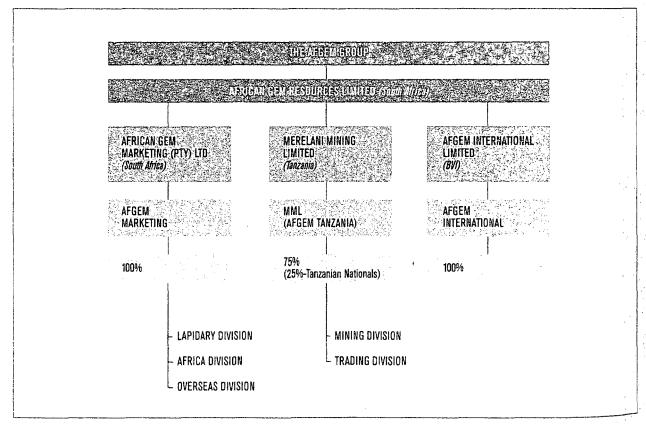


Figure 2.1 Corporate structure of African Gem Resources Limited

## 2.3 Mine Location

The tanzanite deposit is situated in the Merelani Hills on the northern flank of the Lelatema Mountains in the Arusha Region of Tanzania, some 14km south-southwest of Kilimanjaro International Airport ("KIA") (see Figures 2.2 and 2.3). The deposit is located at latitude 3°35'S and longitude 37°01'E, at an elevation of about 1 115m above mean sea level ("mamsl").

The Special Mining Licence ("SML") includes a total surface area of 8km² (Figure 2.3) and straddles the rugged dolostone terrain of the Lelatema fold structure and the flat Sanya Plains. The climate is temperate, with average temperatures (at KIA) confined to a low of 13°C and a maximum of 35°C. The average annual rainfail as measured at KIA is 536mm, with the wettest month being April. Two rainy seasons are experienced per year: March to May and November to December. The climatic conditions around the mining area are moderated by the hilly terrain, especially at the residential/office camp established near to the mine entrance ("Top Camp") where the temperatures are noticeably less than at the plant, some 180m lower in elevation.

The area is well supported by regional infrastructure, with KIA 14km from the project site. The access road from KIA to site is in a poor state of repair. The KIA is connected by tar roads to the major towns of Moshi and Arusha. A rail siding is located 25km from the project area, whilst the nearest port is Tanga some 350km away. Electrical power is available from an overhead transmission line from the Tanzanian national power grid and diesel-operated generators installed at the mine and plant sites. Water is supplied from a well-field developed near the plant site which taps a significant underground aquifer.

## 2.4 Mining History

A violet-blue gemstone variety of zoisite - subsequently named tanzanite - was found in the area in 1967. Since then, tanzanite has been extracted principally by artisanal miners from an area 5km long by 2km wide in a haphazard and uncontrolled fashion. At the end of 1990, up to 30 000 artisanal miners were removed from the site by the government to make way for the restart of commercial mining activities.

The area was then partitioned into four blocks (now known as Blocks 'A', 'B', 'C' and 'D' - see Figure 2.3) by the Ministry of Energy and Minerals and allocated to individuals and companies in January 1991. Graphtan was allocated Block 'C' and was subsequently granted a 20-year SML by the Ministry of Energy and Minerals to mine graphite, with tanzanite recovered as a bi-product.

Afgem acquired the mining rights of Block 'C' together with the process plant on 1 July 1999 from Graphtan.

## 2.5 Mining Authorisations and Mining Leases

#### 2.5.1 Mining Licence

MML was granted a Special Mining Licence No. SML 8/92 in accordance with the provisions of Section 39 of the Mining Act, 1998 ("Mining Act") on 10 March 2000. This licence confers on MML the exclusive right, subject to the provisions of the Mining Act, to carry on mining operations for certain minerals and gemstones in the area to which the mining licence relates. The area is defined by corner co-ordinates in terms of lines of longitude and latitude and covers an area of 8 km<sup>c</sup> (see Figure 2.3).

The SML is valid for a period of 12 years and four months from 10 March 2000. The SML will be extended for a further period of 25 years provided MML complies with the provisions of Section 42 of the Mining Act. These provisions relate specifically to issues of:

- reasonable progress with mining development;
- · sufficient remaining ore reserves;
- future mining programme in accordance with good mining practice; and
- environmental management that satisfies the standards set by the Government of Tanzania.

Compliance with these provisions is not considered to be onerous and has been catered for in the LoM plan.

#### 2.5.2 Mineral Rights

The mineral rights of the area encompassed by the SML over Block 'C' are granted to MML in terms of the SML. The SML grants MML the exclusive right to mine, search for, dig, mill, process, transport, use and/or market tanzanite, tsavorite, kyanite, graphite or other minerals found to occur in association with that mineral in and vertically under the Special Mining Licence Area. In addition, MML may execute such other works as are necessary for the above purpose.

#### 2.5.3 Surface Rights and Land Ownership

In terms of the Land Ordinance, Cap113, a person may only own the 'unexhausted improvement on land'. The 'unexhausted improvement' is defined in terms of Section 2 of the Land Ordinance, Cap113, as any thing or any quality permanently attached to land resulting from the expenditure of capital or labour by an occupier or any person acting on his behalf and in creating the productive capacity, the utility of the amenity thereof.

All surface rights in Tanzania vest in the Government of the United Republic of Tanzania. The Government of Tanzania may grant the rights to the use of surface to a third party who or which would enjoy the use of those rights in terms of the relevant agreement with the Republic. The granting of a SML in accordance with the Mining Act grants the holder of the SML these rights.

The right to use the surface area of the SML is therefore granted to MML pursuant to Section 43 of the Mining Act. An annual fee of US\$12 000 (based on US\$1 500 per square kilometre) is paid as rent for the use of the licence area in total and not only the surface rights.

#### 2.5.4 Water Permits

MML has the right in terms of the SML to extract water from the boreholes developed on its property at the rate of 22.7m³ per day. As the required extraction rate is in excess of this figure, MML was obliged to submit an application for a water permit. The Ministry of Water has confirmed by letter that a water permit to extract up to 115m³ per day will be issued to MML shortly.

#### 2.5.5 Royalties

MML has an obligation in terms of Section 86 of the Mining Act to pay a royalty of 3% of the "net back value" of minerals produced under its SML. The "net back value" is defined in Section 86(3) as the free on board ("FOB") market value of minerals at the point of export from Tanzania, or, in the case of consumption within Tanzania, at the point of delivery within Tanzania. The licence holder is entitled to deduct from the FOB value the cost of transport (including insurance and handling charges) from the mining area to the point of delivery and processing costs not normally carried out in Tanzania in the mining area. This implies that the processes of cobbing and grading are normal mine processing costs and therefore not deductible from the FOB value.

In terms of the SML, MML is entitled to undertake further beneficiation of the tanzanite through the processes of preforming heat treatment and polishing. These costs would then be deductible against the higher FOB value of the tanzanite.

#### 2.5.6 Methods of Operation

The SML granted to MML refers to three key documents, viz. the Mining Plan, the Environmental Management Plan ("EMP") and the Employment and Training Plan ("EATP"). The plans referred to in the SML relate to those previously submitted by Graphtan.

In terms of Section 45 of the Mining Act, the holder of a SML may make amendments to these plans and submit the amended plans to the Minister of Energy and Minerals. As long as the new plans do not in any way alter a provision which forms a part of the conditions of the licence or adversely affect environmental management, the plans shall have immediate effect.

As discussed in Section 4.6, MML is busy drafting a proposed EMP based on the recommendations contained in the EIA. The proposed EMP still has to be submitted to and agreed with the National Environment Management Council ("NEMC"). From discussions between MML and NEMC, the NEMC has indicated that there should be no reason why the EMP would not be accepted. The mining plan, as set out in the feasibility study and described in this CPR, and the updated EIA/EMP can then be formally submitted to the Ministry of Energy and Minerals. As these plans provide improved environmental management activities in line with current international practice and do not substantially after any provision that forms part of the conditions of the licence, it is expected that these plans will receive immediate approval.

MML has adopted an employment and training policy which provides for a gradual reduction in the number of expatriate employees through the training and development of Tanzanian employees. The Ministry of Energy and Minerals cannot trace the previous EATP compiled by Graphtan. It is therefore not possible to express an opinion on any obligations contained in the Graphtan EATP. In view of this, MML is compiling a new EATP which will comply with the basic employment and training conditions encapsulated in Tanzanian Law. The EATP once completed, will be submitted to the Ministry of Energy and Minerals for approval. In all probability, such approval will be given automatically.

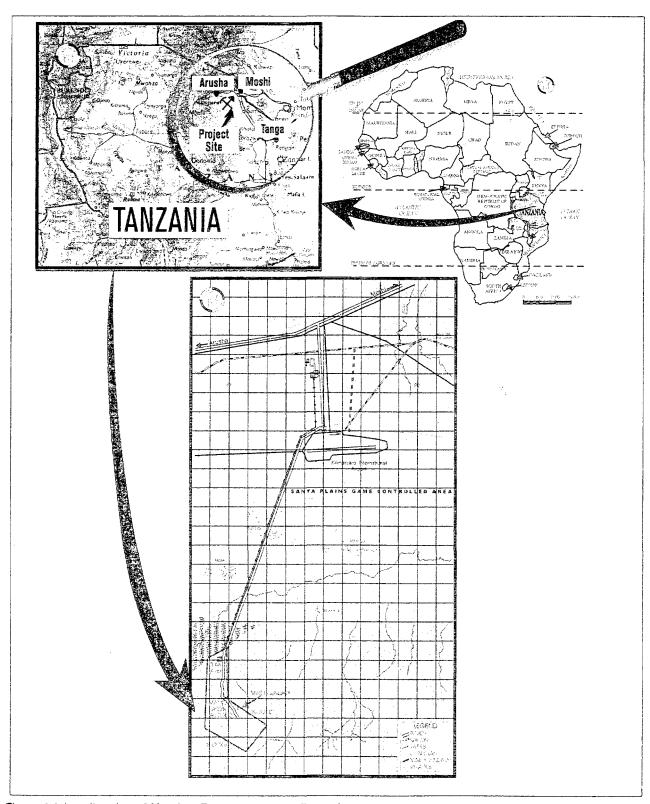


Figure 2.2 Locality plan of Merelani Tanzanite Mine in Tanzania

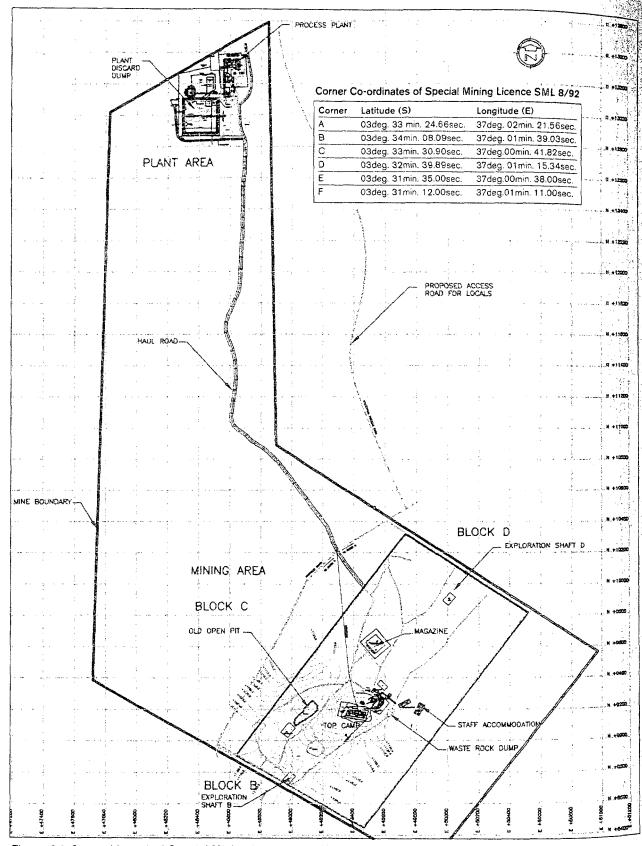


Figure 2.3 General layout of Special Mining Licence and Merelani Tanzanite Mine

## Geology and Mineralisation

#### 3.1.1 Regional Geological Setting

The Merelani mining area in northeast Tanzania is the only producer of tanzanite in the world. The Merelani tanzanite deposit is located on the northwestern limb of the Lelatema fold, a northerly plunging, regional-scale fold structure developed in Pan-African basement rocks (Figure 3.1). Similar to most gemstone occurrences in northeast Tanzania and southern Kenya, the deposit is hosted by high-grade metamorphic graphitic gneisses, dolomitic marbles and garnet-sillimanite schists of the Mozambique belt in East Africa.

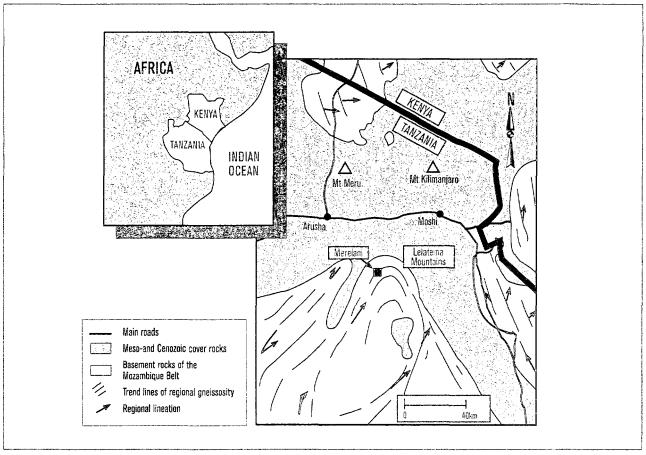


Figure 3.1 Regional Geology sketch plan around the Merelani tanzanite deposit

## 3.1.2 Project Geology

The northeasterly trending, moderately northwest dipping (35° to 50°) lithostratigraphic succession of the Merelani Tanzanite Mine has been subdivided into two main units, termed the Upper and the Lower Horizon enveloping a central unit of garnet-sillimanite gneiss (Figure 3.2). The Upper Horizon comprises a massive unit of coarse-grained dolomitic marbles underlain by an up to 250m thick unit dominated by kyanite-biotite-graphite gneisses. Titanite, clinopyroxene, scapolite, wollastonite, calcite and garnet occur as accessory minerals but may locally be abundant indicating compositional variations within the seemingly homogeneous unit.

A prominent, northeast-southwest trending ridge of medium-grained garnet-sillimanite gneiss forms the central unit of the Merelani deposit (Figure 3.2). The gneiss unit attains a maximum thickness of ca. 150m in the central parts of the mine area. A pervasive foliation in the gneisses is defined by biotite and sillimanite that wrap around garnet porphyroblasts. Aggregates of pyrite are either aligned parallel to the foliation or occur in strain shadow sites around garnet porphyroblasts.

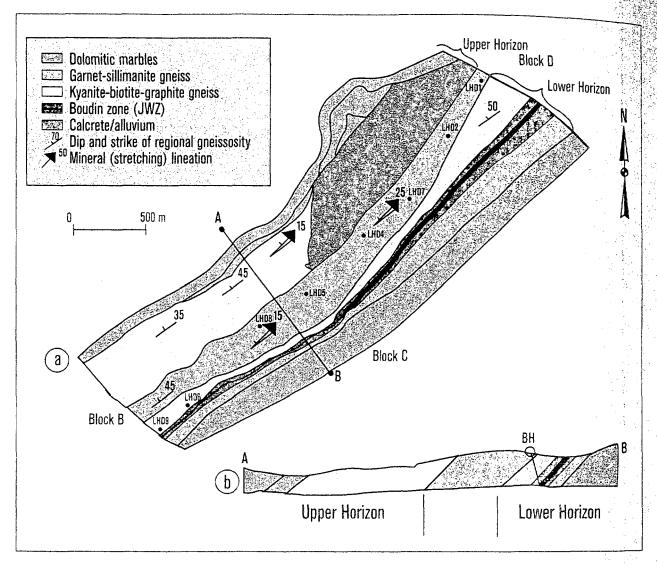


Figure 3.2 Project geology of the Merelani tanzanite deposit

- (a) plan view
- (b) section along line AB

The Lower Horizon, which underlies the central garnet-sillimanite gneiss, comprises kyanite-biotite-graphite gneisses similar to those of the Upper Horizon. The gneisses are intercalated with thin, up to 5m wide bands of dolomitic marble and garnet-sillimanite gneiss, also hosting the main, mineralised boudin zone (Juuyawatu Zone, "JWZ").

The eastern limit of the mine property is again made up of a massive unit of dolomitic marbles (Figure 3.2).

## 3.1.3 Geology of the Boudin System

The Lower Horizon contains up to three parallel, closely spaced boudin layers (Figure 3.3). The variation in size and separation of adjacent boudins within boudin trains can be clearly seen in Figure 3.3. The thickness of boudins measured perpendicular to the gneissosity ranges from 5cm to 2.5m. Individual boudin spacing is highly variable, ranging from closely-spaced or pinch-and-swell structures with little separation to a spacing of several metres. The boudinaged layer is markedly thickened in fold hinges of isoclinal folds, progressively thinning on the limbs of the folds (Figure 3.4). Boudins tend to be larger and more closely spaced within or in proximity to hinge zones of isoclinal folds. The boudin size decreases rapidly and the spacing increases on the limbs of the folds.

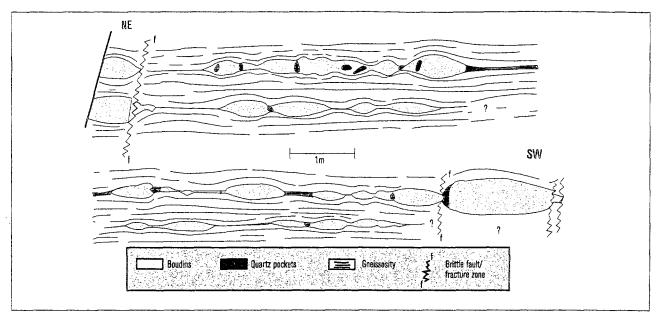


Figure 3.3 Detailed map of an underground development showing the occurrence of two parallel, closely-spaced boudin layers

The isoclinal folding and duplication of the boudinaged layers indicates that the mineralised layers recorded in the underground workings most likely represent only one original, refolded layer. On a mine scale, folds show a consistent plunge of 15° to 20° to the north-northeast (Figure 3.4), parallel to both the regional stretching lineation and regionally developed isoclinal folds.

The zone of mineralisation was intersected in eight boreholes at depths of up to 150m below surface. The boudin system and enveloping banded gneisses as exposed at surface ranges between 2m and 10m thick, being at its narrowest in the central parts of the mine.

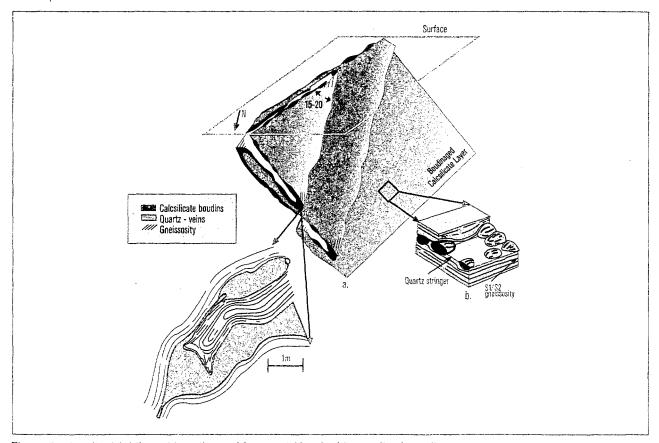


Figure 3.4 Isoclinal folding of boudinaged layers at Merelani tanzanite deposit

#### 3.1.4 Mineralisation

Tanzanite mineralisation at Merelani occurs in quartz and quartz-carbonate pockets that are spatially confined to a narrow, boudinaged layer of calc-silicate rocks, concordant within the northeasterly trending metasedimentary sequence (Figure 3.2). Boudins that host quartz pockets and associated tanzanite mineralisation show roundish to polygonal outlines in plan view and are best described as chocolate-tablet boudinage structures recording a flattening type of bulk deformation (Figure 3.4b).

Tanzanite-bearing quartz pockets occur in specific structural sites within and adjacent to boudins. Four main types of tanzanite-bearing structures can be distinguished:

Type 1: irregularly shaped to roundish pockets in the central parts of boudins (Figure 3.5a);

Type 2: wedge-shaped masses at the lateral terminations of boudins corresponding to strain-shadow positions of boudin necks (Figures 3.3, 3.5a-c);

Type 3: veins that transect boudins along shear fractures (Figure 3.5a, c, & d); and

Type 4: tension fractures in the central parts or close to the lateral terminations of boudins (Figure 3.5b).

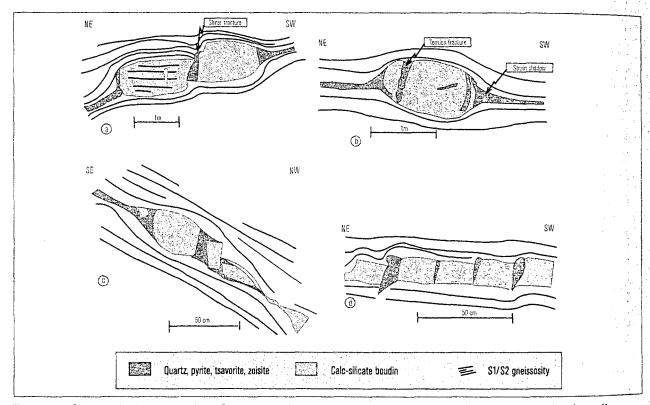


Figure 3.5 Schematic depiction of the four types of tanzanite-bearing structures at Merelani tanzanite deposit

## 3.1.5 Exploration Programme

#### Trenching

A series of trenches excavated by Graphtan had confirmed the position of the JWZ on surface. These were reopened and remapped by Stellenbosch.

Strike parallel trenching was conducted on surface along the strike of the JWZ between the decline shaft position and Block 'B' (see Figure 3.6). Combining the trench data with downdip excavations in old workings (Pits 1, 2 and 3 on Figure 3.6), the presence of a fold closure could be interpreted. Well-developed boudin systems were encountered in the old workings (Pit 3) closely related to the fold closure as mapped in the trench. Extrapolating the closure downdip along the JWZ, a separation distance of 34m between fold closures is indicated if a parallel plunge is assumed.

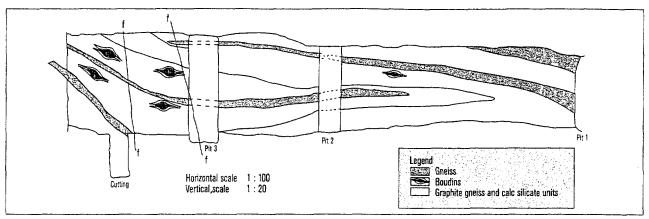


Figure 3.6 Plan view indicating fold closure on the floor of strike parallel trenching on surface at Merelani

#### Drilling

A total of eight drillholes intersected the JWZ at depths varying from 95m to 153m. The locations of these drillholes are shown in Figures 3.2 and 3.8. A piece of tanzanite was recovered in a length of core from one of the JWZ intersections. Projection of the intersection of the JWZ in these boreholes to surface at a dip of 45° places the suboutcrop of the JWZ in the same position as obtained from surface data. This feature indicates a general constant dip of the JWZ horizon to at least 150m.

#### Geochemical Sampling

A total of 121 samples was taken from various units intersected in the drillholes. Ten samples from various positions in the decline shaft and 40 samples from the bulk sampling programme were also taken. A multivariate discriminant analysis was performed on the geochemical analyses of the samples. This analysis showed a clear discrimination between the JWZ, LK2 (hangingwall), LK1 (footwall) and C-zone, at a discrimination factor of 98.92% between the different layers (Figure 3.7). The C-zone is a poorly developed replicate of the JWZ with minor calc-silicates which lies stratigraphically in the hangingwall sequence above the JWZ.

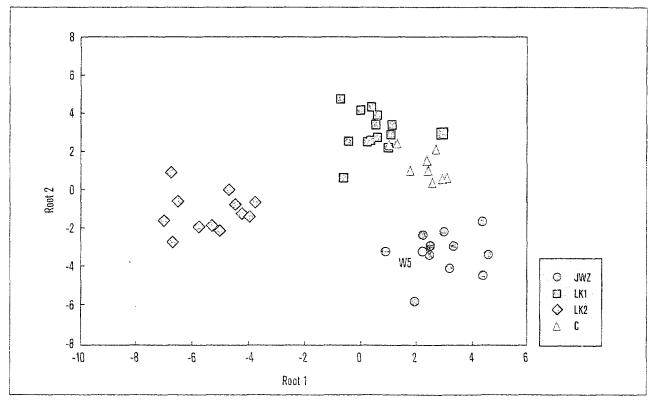


Figure 3.7 Discriminant function diagram illustrating separation of JWZ zone from other horizons - footwall (LK1), hangingwall (LK2) and C-zone (C). (Labelled sample in JWZ group was taken from bulk sample W5.)

From this, it was deduced that the ore-zone (JWZ) was readily distinguishable from the surrounding layers. It was thus illustrated that the JWZ unit as encountered in the boreholes and the surface/underground exposures, is in fact the same unit

#### **Bulk Sample**

A bulk sampling programme was conducted to arrive at an ore grade and to detail the geological features controlling tanzanite mineralisation. Two 25m long developments were blasted in the plane containing the JWZ. The 25m winze sample, which was a continuation of the existing decline dipping at an average of 16°, yielded some 399t of material. The raise sample, which contained some 218t, was developed perpendicular to the winze in an up-dip direction.

Strict geological control was exerted and a complete photographic record was kept of each mapped area. After each blast, the blasted face was inspected and any exposed tanzanite was recovered separately.

All bulk sample material was processed through the existing heavy media separation ("HMS") plant on the site.

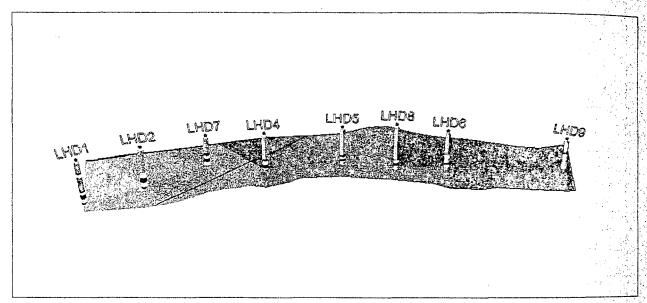


Figure 3.8 Three-dimensional view of Merelani tanzanite deposit showing borehole traces (South East view)

#### 3.1.6 Sampling and Quality Assessment

The entire bulk sample programme and the final recovery and sorting of tanzanite was performed under close scrutiny of an independent monitoring team comprising Stellenbosch, SRK and Bateman staff. Some 384 100ct of rough tanzanite (375 990ct from the winze and 8 110ct from the raise) was recovered from the bulk sample, which was sent to South Africa for final quality assessment and valuation. The winze material comprised 123 400ct of tanzanite recovered from the face and 252 590ct of tanzanite recovered from material processed through the HMS.

A randomly selected sample of 53 384 ct from the tanzanite recovered from the winze (20 436ct and 32 948ct from the face and HMS materials respectively) and the 8 110ct of tanzanite from the raise was subjected to final quality assessment. SRK monitored the cobbing, sizing and grading process to obtain clean, gem-quality tanzanite, which was conducted by Afgem personnel. The resulting size/quality gradings and recovery factors for the gem-quality tanzanite are summarised in Table 3.1. The Jewellery Council of South Africa ("Jewellery Council") critically evaluated the size/quality gradings as performed by Afgem. Generally, the Jewellery Council has tended to marginally downgrade Afgem's grading of the A-quality stones (see Table 3.2), although there were instances of B-quality stones being reclassified as A-quality. The classification of a piece of rough tanzanite into an A, B or C quality depends on the assessment of its clarity, the strength of its trichroism (colour) and the estimated recovery of a polished stone from the rough. These involve subjective decisions that are dependent on the experience and skill of the person doing the evaluation. Note that the size classifications of the stones are all performed on the basis of mass and no changes in size were thus necessary.

Table 3.1. Summary of Grading Results

Material Source		Raise	Winze - face	Winze - HMS
		(%)	(%)	(%)
Recovery				
(cobbed weight to received weight)		68.4	80.9	65.4
Proportion of material in each grade				
	Α	75.1	60.2	73.3
	В	24.3	36.7	24.4
•	С	0.6	3.1	2.3

Table 3.2. Jewellery Council Audit of the Consolidated Grading Results

Quality	Afger	Afgem Grading		Jewellery Council Audit		Difference	
	Mass	Proportion	Mass	Proportion	Mass	Proportion	
	(ct)	(%)	(ct)	(%)	(ct)	(%)	
A	4 781	72.5%	4 522	68.6%	-259	-3.9%	
В	1 707	25.9%	1 936	29.4%	+229	+3.5%	
С	106	1.6%	136	2.1%	+30	+0.4%	
Total	6 594		6 5 9 4		•		

The results of the Jewellery Council audit have been used to provide a measure of confidence in the size/quality classifications derived by Afgem for the gem-quality tanzanite.

#### 3.2 Resources and Reserves

#### 3.2.1 Data

#### Quality and Quantity of Data

Information for geological modelling consisted of drillhole data logs, trench sampling and mapping data, surface topography contours, interpreted geological plans and sections dated October 1996 and August 1997 and a plan of the location of artisanal pits on Block 'C' dated October 1997. In addition, the Graphtan database in electronic format enabled details pertaining to surface topography spot heights, location of artisanal shafts and drillhole collars and orientations to be extracted.

The drillhole cores were examined on site and were found to be consistent with the information detailed in the drillhole logs. The drillholes are spaced at an average of 300 m along strike (see Figures 3.2 and 3.8). The JWZ hangingwall contact was intersected at depths ranging from 95.6m to 153.8m below surface. The thickness of the JWZ intersected in the drillholes varied from 0.8m to 6.6m.

SRK considers the available data as adequate for conceptual modelling of the orebody.

#### **Bulk Density Measurements**

Density determinations were conducted on samples of the JWZ. The results yielded a range of densities between 2.43t/m³ and 2.76t/m³, with the former considered to be due to the slightly altered nature of the core sample. The arithmetic mean of the results is 2.64t/m³, which is comparable to the density assumed for the JWZ of 2.85t/m³.

## 3.2.2 Geological Modelling and Grade Estimation

#### Geological Modelling

The geological modelling has been limited to the Lower Horizon formations. Geological sections were created at each drillhole position. The extent of each rock unit was defined on each section by four points on a polyline representing the top

and bottom of the unit from surface geology and drillhole intersections. Geological solids were created for each rock unit by linking sectional polylines across the expanse of the property. The bottom of the model for geological modelling was clipped to the 920m elevation, equivalent to about 20m below the deepest JWZ footwall contact in drillhole LHD 1. The Base Case model as developed in the feasibility study and used here, assumes that the payshoot as identified in the winze extends for a further 516m to the lower defined edge of the orebody. Although evidence indicates that additional payshoots should be present in the orebody, no other payshoots have been confirmed and systematically sampled in underground workings.

#### **Grade Estimation**

The recovery factors shown in Table 3.1 were used to convert all recovered tanzanite to a gem-quality equivalent. Using the measured tonnes mined and the resultant gem-quality tanzanite for each 1m advance, the grade in carats per tonne (cpt) for each 1m sample for both the winze and raise was calculated. The range in determined grades of recovered gem-quality tanzanite is 140cpt to 2 200cpt for the winze and 2.5cpt to 140cpt for the raise, shown diagrammatically in Figure 3.9.

Extreme value analysis performed on these results showed that the cumulative mean, the cumulative standard deviation and the cumulative coefficient of variation do not stabilise within the two data sets. The data sets are considered to be too skewed for their arithmetic means to be reliable estimates of the mean grade. The median value was selected as the preferred non-parametric estimator for the likely average grade, with the following results:

•	Payshoot (fold closure in winze)	508cpt	
•	Low grade (raise)	20cpt	

#### Discussion on Geological Model

The geological model describing the JWZ depicts a series of shallowly plunging isoclinal, intrafolial folds. Abundant tanzanite mineralisation has been shown to be located within the fold closures from the results of the bulk sample taken in the winze. Low grade tanzanite mineralisation has been identified between fold closures based on the bulk sample results from the raise.

Geochemical analysis shows that the JWZ is relatively consistent in composition, with the concentration of tanzanite within the fold closures being explained by structural heterogeneity.

During the sliping of the decline in preparation for the mining of the bulk sample, some 15 000ct of tanzanite was recovered. As no proper records were kept during the decline preparation and samples were not rigorously taken, these data are not considered sufficiently accurate or reliable for use in any resource classification. However, these data confirm the continuity of the tanzanite mineralisation from the bulk sample location to the portal of the decline at the base of the Juuyawatu Pit. Note that according to Tanzanian records, 2 million ct of gem-quality tanzanite was produced from the Juuyawatu Pit between 1967 and 1972. This represents the extension to surface of the decline and hence the mineralisation contained therein.

The nature of the mining methods employed on the adjoining Blocks 'B' and 'D' indicates that the artisanal miners will be more inclined to look for and follow the higher-grade zones. There are indications that the artisanal workings already extend further than 200m below surface.

SRK has assumed that the bulk sample of the payshoot and the background material are suitable as estimates of the mean grade of these two entities. This assumption is premised on:

- · Stellenbosch's inspection and mapping of accessible artisanal pits on Block 'C';
- · the lateral extent of artisanal workings on Block 'C';
- detailed mapping of transverse and strike-parallel trenches across the JWZ;
- detailed structural analyses of the localisation of tanzanite;
- geochemical data supporting a consistent composition of the JWZ in space;
- tanzanite recovered during the decline preparation;
- historical production records from the Juuyawatu Pit; and
- the nature of artisanal mine workings in Blocks 'B' and 'D'.

SRK is satisfied that the continuity of the JWZ has been adequately demonstrated. The uncertainties in the grade have been accommodated in the selected resource classification applied to the two identified zones, as outlined in the next section.

The orientations, depths and extent of artisanal workings of more than 250 identified pits in Block 'C' are not clearly understood. It has therefore not been possible to quantify the extent to which the JWZ near to surface has been mined. Rather than assume an arbitrary percentage to describe the ore which is still in place, the material within 50m of surface has been excluded from the resource on the basis that it is already partially mined. The lower limit of the resource model was restricted to an interpolated surface 20m down dip of each drillhole JWZ intersection. The payshoot was modelled to follow the orientation of the winze, with dimensions set at a width of 2m and a thickness consistent with the JWZ as constructed in the geological model (see Figure 4.1). The lateral extents of the resource were truncated along the outermost drillhole section lines, some 100m within the SML boundary. This represents the Base Case geological and resource model.

The resource has been classified as Indicated in accordance with the guidelines for a diamond resource outlined in the SAMREC code, with the results given in Table 3.3. There is considerable geological evidence to indicate the presence of additional payshoots (fold closures) within the JWZ in Block 'C', as well as a continuation with depth of the JWZ beyond 150m below surface. Until further exploration confirms this, the additional payshoots and depth extent can only be classified as Inferred Resources at this stage. Similarly, the tanzanite mineralisation which is known to occur in the Upper Horizon, has not been accounted for in the present resource compilation.

Table 3.3. Indicated Tanzanite Resource within Block 'C', Merelani

Category	Volume	Tonnes	Recovered Tanzanite	Contained Tanzanite
	(m³)		(cpt)	(000ct)
JWZ low grade				···
(excluding payshoot)	840 350	2 226 920	20	44 538
Payshoot	4 360	11 550	508	5 867
Total JWZ	844 710	2 238 470	22	50 405

Notes: i) A density of 2.65t/m³ has been used.
ii) No inferred resource has been included

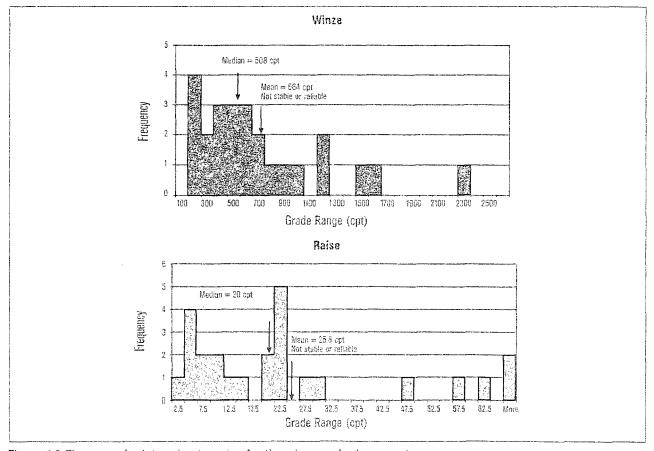


Figure 3.9 The range in determined grades for the winze and raise samples

- the bottom screen at the plant was set at 5mm, so an unknown proportion of stones less than approximately 5ct (or 1g) in size was not recovered;
- from partial re-sorting of the concentrate, further tanzanite was recovered. Although this additional tanzanite has been included in the grade calculation, it indicates that if a total re-sort was performed, the yield would be increased:
- random sampling of the HMS discard yielded limited quantities of tanzanite, due to the fact that the plant configuration
  had not been optimised at the time of processing the bulk sample. The problem areas have since been corrected; and
- the median value has been used to define the average, due to the limited number of samples.

The above all provide upside potential for the in-situ resource grade.

## 3.2.5 Exploration during Construction and Commissioning

It is the considered opinion of SRK, the management of MML and its geological advisers that sufficient information exists to indicate the presence of additional payshoots on the mine. It is important that these high-grade zones are correctly identified and systematically sampled so that a suitable mine plan to optimally extract such resources can be developed. A period of 12 months has been included in the implementation programme for this purpose. With this in mind, MML has started a programme of exploration on the project site which will include the following:

- two exploration shafts (one close to the boundary with Block 'B' and the other adjacent to Block 'D') will be sunk on true dip within the JWZ at known artisanal mining locations to explore the old workings and to intersect potential payshoots;
- an exploration winze will also be sunk on the Upper Horizon to test its tanzanite-carrying potential. This is also aimed at increasing MML's presence in and hence security of the Upper Horizon; and
- some 3 000m to 4 000m of tanzanite core drilling planned to test the continuity of the JWZ to a depth of 300m below surface, to establish the prospectivity of the Upper Horizon and to identify other potential tanzanite-bearing layers on the site. This will only commence during the 2002 financial year.

The exploration activities will concentrate on the 'B' and 'D' exploration shafts and the Upper Horizon shaft during the remainder of this financial year.

As part of the mining pre-development, the raise developed during the bulk sample exercise will be extended to surface along the plane of the ore zone. This raise, once complete will serve the dual purpose of a ventilation exhaust shaft and alternative escape/access route. Technically, material removed from the raise will be ore, but has to be classified as wasted due to the resource definition adopted above. Any old workings intersected by the raise will be carefully investigated, mapped and sampled where possible. In addition, an exploration winze will be sunk perpendicular to the decline to confirm, or otherwise, the presence of a potential payshoot some 30m below the decline.

If the results of this exploration programme confirm the presence of additional payshoots, the geological resource model and long term mine plan will be modified accordingly.

In the absence of this information, the Base Case resource model as developed in the feasibility study has been used for evaluation purposes. It is important to note that the exploration programme and mining development described here will not delay the start of production as specified in this CPR. Some 90% of the production target for tanzanite in the 2002 financial year can be extracted from the payshoot within a 2 month period.

## 4 SCOPE OF ACTIVITIES AT MML

The general layout plan for the mine, plant and infrastructure can be seen in Figure 2.3. Key facilities discussed in this CPR are highlighted in that diagram.

#### 4.1 Mining

## 4.1.1 Hydrogeological Assessment of Mining Area

From the elevation of the regional water table (aquifer) at the plant site (about 928mamsl) and the average surface level for the mining area (about 1.115mamsl), it is inferred that the regional aquifer within the mining area is unlikely to be within 150m of the surface. Mining activities should not experience significant water inflows down to this depth. Localised seepage zones will be encountered along fissures and joint systems but the inflows should not adversely affect the mining operations. It is therefore unlikely that significant dewatering measures will be required within 150m of the surface.

#### 4.1.2 Mining Geotechnics

The geotechnical investigation carried out has revealed that the ore and country rock can be described as poor rock (Class 4), while the contact is poor to very poor (Class 4 to 5).

The poor hangingwall conditions mean that only stopes with limited mining spans can be developed. An up-dip stoping system with large pillars and small stopes is thus the only feasible mining method for the ore body. Empirical and numerical analysis has shown that rooms and pillars with strike lengths of 4m and 10m respectively, with a 15m dip extent, will be stable (see Figure 4.2). Full pillar splitting to increase extraction results in below acceptable factors of safety.

Rock mass classification results have shown that full column-grouted rock bolts with straps should be installed wherever unstable wedges may develop in the hangingwall of any development.

#### Seismic Damage Potential

The potential for mine workings to be damaged by seismic activity related to the East African Rift Valley system (passive plate boundary) was reviewed. Based on the presented seismological data, it would appear that ground motions from a Rift Valley-related seismic event would be minimal due to the fact that the mine is situated some 100km from the closest area of activity.

## 4.1.3 Mine Layout

#### **Existing Infrastructure**

Existing infrastructure includes a winze which has been developed in the JWZ for 236m on a minor dip of 16° from surface to an elevation of 1 056mamsl. As part of the bulk sampling programme, a 25m long raise was developed at right angles to the winze, starting at the 1 062m elevation.

Mining along the winze has effectively removed the payshoot down to 1 056mamsl. Mining the rest of this payshoot will be done by developing the winze along the full extent of the payshoot, which has been modelled to exist down to a depth of 921mamsl. Assuming the dip of the payshoot remains the same, this represents a further 516m of payshoot in the plane of the orebody. If no further payshoots are discovered during the initial exploration phase, the rest of the JWZ will be mined using an up-dip stoping method.

#### Mining Development

Pre-production mining development will consist of extending the raise to surface and sinking an exploratory winze. The raise will serve as a main ventilation return airway and a second access / outlet for emergencies. The exploratory winze can be used as a water sump for the decline shaft, if necessary. These developments will provide additional information on the possible presence of payshoots above and below the main payshoot.

The uppermost level will be developed 13m above the winze-raise intersection at an elevation of 1 075mamsl to access the area beneath Top Camp. A reef drive is developed both to the north and the south on each level, with the exception of 1075 level (south only) and 932 level (north only). All stations are single-sided with a turn-out from the decline (winze) to the north. All development other than infrastructural development such as station loops, will be located in the JWZ ore.

The existing decline will serve as the main access way to the workings, as is the case currently. The decline will be straightened and equipped to transport higher tonnages than was the case during the bulk sampling programme. The winze will be developed at an effective 3m by 3m cross-section. This will provide sufficient room for tracks and a travelling way for personnel. The reef drives will act as haulages.

A composite three-dimensional view of the crebody showing all existing and proposed development is shown in Figure 4.1.

#### Stoping Layout

For the Base Case, a final stope dimension of 15m by 4m and a level spacing of 13m, footwall to footwall (in the vertical plane), was selected. This is shown schematically in Figure 4.2. A 4m wide stope is initiated from the reef drive as ledging at a 2m height. This is in order to install packs and box fronts, as shown in the Figure 4.2.

The mining cut is planned to follow the hangingwall contact. Where the thickness of the JWZ exceeds 2m, the footwall of the stope is lifted to give a final stoping height equal to the ore thickness. The geotechnical environment under these conditions needs to be evaluated on its own merits. The maximum anticipated stoping height is 6m.

Stoping advances to a point about 3m from the footwall of the reef drive on the level above. This allows for a temporary sill pillar to be left in situ while tramming operations continue on that level. Once the level above is worked out and the equipment such as tracks and pipes have been reclaimed, the sill pillar can be extracted.

Packs are installed in the hangingwall of the drive and a box front is installed between the packs. Ore is then drawn through the box front into 1t capacity cocopans, which will then be trammed to the stations.

An access way for men and material is established on the side of the stope, as shown in Figure 4.2.

Limited pillar reclamation has been included in the mine plan. This has been based on the effective extraction of 90% of every alternate pillar on every alternate level. No extraction of pillars above and below the 1062 level, which will act as the main return airway, has been planned. It should be noted that as more geotechnical knowledge of the orebody and host rock is gained, the extent and method of pillar reclamation can be adjusted.

#### Ore Transport

A single-drum hoist will be installed at the top of the decline shaft on surface during 2002. Rock from the cocopans will be tipped into boxholes on each level situated near the decline. The ore in the boxholes will be fed into a 3t skip. On surface, the contents of the skip will be emptied into a headgear bin situated beneath an elevated platform. The bins will be emptied into articulated dump trucks, which will transport the ore to the plant.

#### 4.1.4 Production Schedule

Mining is planned to start in the financial year beginning March 2001. During the remainder of the 2001 financial year, the raise will be extended to surface and an exploratory winze developed. This development forms part of the exploration programme targeted to confirm the presence of additional payshoots.

The Base Case mining plan assumes that no further payshoots are identified and has been scheduled to yield a specified volume of rough tanzanite in accordance with projected sales demand. It should be noted that the Base Case production schedule as presented has relevance only if no other payshoots are discovered in the JWZ or mine area. If another payshoot is discovered, the mining plan will be changed to ensure optimal extraction of the high grade payshoots. The scheduled production during the first two years of the plan can be handled by the existing mono-rope hoisting facility. During the second half of 2002, the decline is to be equipped with a single drum winder and 3t skip to handle the increasing tonnage arising from the increased development and the commencement of production stoping.

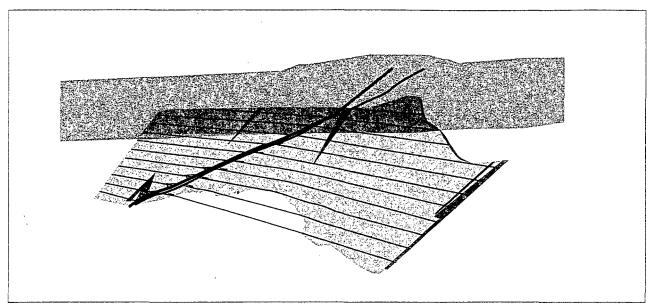


Figure 4.1 Three-dimensional view of orebody showing mining development

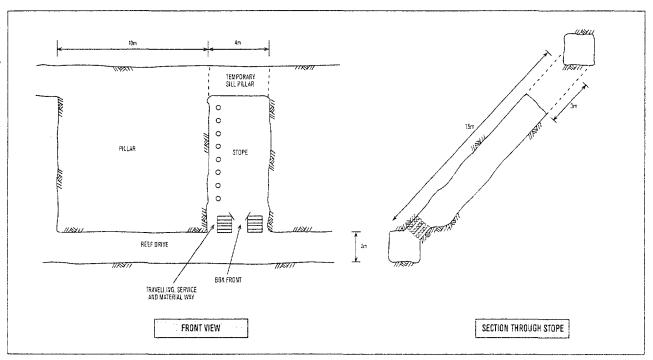


Figure 4.2 Schematic representation of stoping method

In the Base Case, the decline is deepened along the payshoot at an average rate of 64m per year for eight years to cater for the rapid build-up in tanzanite requirements and to provide access for reef drive development on the lower levels. The rate of advance is balanced to maintain a source of high grade ore for as long as possible in the context of the 1.5 million of annual tanzanite production target.

The reef drives are developed to the extremities of the ore body and stopes are mined out between them. Level spacing is 13m vertically, to allow for a maximum span of 15m in the plane of the reef. The mining operation is essentially an up-dip method. A temporary sill pillar is left in situ while tramming takes place along the reef drive on the level above.

Production details for the seven financial years starting 1 March 2000 are summarised in Table 4.1. Note that no material extracted from the exploration shafts ('B', 'D' and Upper Horizon) has been incorporated into the mine schedule. The annual mining production for the LoM is shown graphically in Figure 4.3.

Table 4.1. Planned Production Rates for MML

6 200	2006	2005	2004	2003	2002	2001		Financial Year ending February
200							Units	
								Mining Tonnage
0 1.30	1.30	1.75	1.75	2.01	1.12		000t	Payshoot
-	9.88	9.20	8.77	5.19	1.52	0.37	000t	On-reef development
	32.10	21.46	15.58				000t	Stoping & pillar reclamation
	43.28	32.41	26.10	7.20	2.64	0.37	000t	Total ore
	1.72	2.32	2.87	2.39	1.19	1.55	000t	Waste
								Rough Tanzanite Produced
7 659.7	659.7	887.2	887.2	1 023.7	568.7		000ct	Payshoot
	197.6	184.0	175.5	103.7	30.4	7.4	000ct	On-reef development
	642.1	429.2	311.6				000ct	Stoping
	1 499.4	1 500.4	1 374.3	1 127.4	599.1	7.4	000ct	Total tanzanite produced
2.	64	429.2	311.6				000ct	Stoping

### 4.1.5 Mine Reserves

The LoM plan design for the Merelani tanzanite deposit as developed in the Base Case in the feasibility study indicates that 840 468t of ore will be extracted from the underground mine during 19 years. This is categorised into Probable Reserves as shown in Table 4.2 below. It is recognised that this represents a low extraction rate for an underground mine, but this is largely governed by the present geotechnical knowledge which demanded that conservative pillar dimensions be used. Once the ground conditions are better understood, it is expected that the use of more favourable pillar dimensions and enhanced pillar reclamation on retreat will allow for increased tonnage to be mined and improved extraction rates to be achieved.

Table 4.2. Underground Probable Tanzanite Reserve at Block 'C', Merelani

Category	Tonnes	Contained	Recovered
		Tanzanite	Tanzanite Grade
		(000ct)	(cpt)
JWZ low grade - development	136 992	2 740	20
JWZ low grade - stoping	691 926	13 838	20
Payshoot	11 550	5 867	508
Total JWZ zone	840 468	22 445	27

The annual tanzanite recovered during the LoM plan is shown graphically in Figure 4.4.

### 4.2 Processing Testwork

The comments made below are based on testwork conducted by Bateman during the processing of the 617t bulk sample through the existing plant at the project site.

### 4.2.1 Mineralogical Considerations

Tanzanite with a density of approximately 3.3t/m³ to 3.4t/m³ is contained within a rock matrix with a specific gravity ("SG") of predominantly 2.65t/m³. Liberation of virtually all the tanzanite from its host boudin material is straightforward, as the boudin material is friable and crumbles relatively easily on impact, with the harder tanzanite staying intact. Concentration by an HMS process is therefore a viable option.

Instances were observed where the tanzanite was contained within or attached to quartz crystals. Under these conditions, liberation does not occur so easily as the overall SG is nearer that of quartz. Unliberated tanzanite particles were observed on occasion reporting to the HMS discard fraction ("HMS floats"). Such occurrences were limited and generally did not comprise gem quality material. It is therefore not considered necessary to install a recovery circuit incorporating a recrushing and recycling circuit for the HMS floats at this stage.

Stellenbosch is investigating various mineralogical properties of tanzanite. If a distinguishing optical feature such as fluorescence can be found, the use of an automatic sorting machine may become a possibility.

Two hand-picking stations are provided in the plant although, in practice, it was found that the ore was too dirty to see the concentrate clearly. As a result, hand picking was only used when the ore was known to contain particularly high grade material.

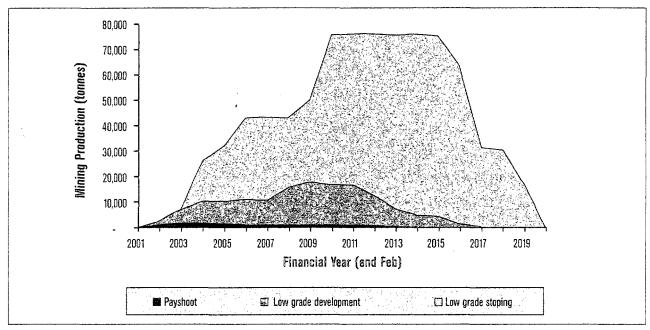


Figure 4.3 Annual mining production

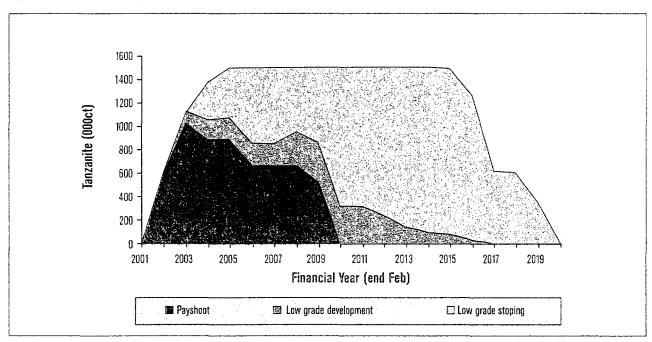


Figure 4.4 Annual tanzanite recovered

There was concern that the primary jaw crusher was breaking coarse (+75mm) tanzanite and a rotary scrubber was considered in place of the primary jaw crusher. This idea was discarded due to the risk of large (+100mm) quartz pebbles being locked up in the scrubber and in effect forming a grinding medium for the boudin material. The boudin material was frequently presented in lump sizes up to 200mm diameter before the jaw crusher, but crumbled to soil-like fragments after passing through it. Breaking up of the boudin material (and liberation of the tanzanite) was completed on the vibrating deck of the secondary screen, the drop into the underpan and subsequent drop to the stockpile. Dead material cushioned these drops and the circuit as a whole is considered to offer a reasonably gentle liberation path for the tanzanite.

### **Moisture Contents**

Air-dried moisture contents were measured for a number of samples. It was found that the average moisture content was 6.6% ±2.9%, within a range of 3.4% to 11.1%.

### **Operating Density**

Density tracer testwork showed that the highest operating density that could be safely used was a SG of 2.65t/m³. At this density, 100% of all the liberated tanzanite reported to the HMS concentrate fraction ("HMS sinks"), provided other operating conditions were normal.

A cyclone blockage was observed on two occasions arising out of feeding the plant at a high feedrate of coarse pebbles. This situation tended to occur at the end of a sample run due to segregation in the stockpile.

### Concentrate Recycling

The sample results table shows that the first pass concentrate averaged 0.7% and 2% of the raise and winze sample weights respectively. By recycling the winze concentrate, the concentrate weight was reduced by an average of 35%. A third recycle did not result in any further weight reduction.

A secondary HMS plant operating at a higher medium SG could possibly be used to reduce the quantity of concentrate which reports to the sorthouse for sorting, by separating a pyrite rich sinks fraction. Densiometric testwork is required to confirm that sufficient density difference exists in the primary HMS sinks for a secondary HMS plant to be cost-effective. The estimated cost for this testwork has been included in the capital budget.

### **Product Size Analyses**

Typical size analyses measured at various points around the plant are shown graphically in Figure 4.5. The feed to the HMS plant is coarser than the stockpile material, as it had been dry screened at 5mm. The HMS concentrate is coarser still due to the 1mm wet screening in the plant. The 5mm dry screen was very susceptible to the moisture content of the run-of-mine ("RoM") ore during the bulk sample and operated at a very low efficiency. At times practically all the screen feed went to the HMS. If the screen blocked, when the ore is particularly wet, all the feed material reported to the oversize and subsequently to the HMS plant. Under these conditions, the HMS plant could only be fed at a maximum rate of 10t/hr.

Sampling of the stockpile discharge highlighted the segregation of the nominal 10t sample during the normal 1hr to 2hr running period, starting with predominantly fines and coarsening up towards the end. This is normal with a conical stockpile but the effect was exaggerated due to the small sample size.

The removal of the stockpile facilities and the installation of a storage bin will overcome the problem of segregation. This will however reduce the live buffer storage capacity available in the plant. When production increases from 2003 onwards, MML will need to increase the storage capacity by either installation of additional bins or revert to the stockpile facility.

### Tanzanite Hang-up in the Plant

A test was carried out using 100 density tracers with a SG of 3.3 that were placed in the 30t RoM receiving bin and recovered with the concentrate sample. The results are shown in Table 4.3. The results point to a 1% to 2% loss of tanzanite within the plant due to hang-up in the drop boxes and in the stockpile. Losses due to spillage or breakage were considered minimal.

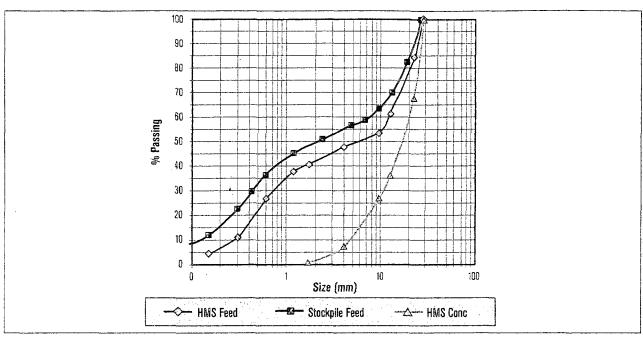


Figure 4.5 Size analyses around processing plant

Table 4.3. Tracer Recovery Tests

(%)
1
2

### 3 Description of Plant and Planned Modifications

The processing plant at Merelani was originally designed to process both graphite and tanzanite ore. It consisted of a three stage crushing circuit, HMS modular plant, milling, flotation, filtering, drying, bagging, tailings disposal and water reticulation sections. Of these only the crushing, HMS, tailings disposal and water reticulation sections are required for tanzanite concentration. A schematic process flow diagram for the plant is shown in Figure 4.6.

### Run of Mine Receiving, Crushing and Screening

Ore is delivered by truck from the mine some 5km distant into a 30t capacity feed bin covered by a 250mm by 400mm static grid. The ore is fed via a variable-speed conveyor to a vibrating grizzly which will be set at 100mm. The grizzly oversize passes through a jaw crusher and joins the grizzly undersize being conveyed to the secondary screen. This screen had a deck of mixed 2mm to 27mm polyurethane panels during the bulk sample, but will be changed to accommodate a 30mm square woven wire screen deck.

The secondary screen oversize passes through a rolls crusher set at 35mm after which it is returned to the secondary sizing screen. The screen undersize was conveyed to the stockpile which has been replaced with the HMS concentrate storage bin. The bin has a live capacity of 20t which will be increased to 30t.

The replacement of the stockpile by the bin means that only one of the two variable-speed vibrating feeders will be required in a central position under the bin. The feeder regulates the flow of ore onto a conveyor which in turn feeds the tertiary sizing screen. During the bulk sample, this screen was fitted with a 5mm polyurethane deck and was susceptible to clogging. This will be overcome by converting the screen to a 3mm square woven wire wet deck and installing sprays to convert it into a wet operation. The screen oversize feeds the HMS plant, whilst the undersize reports to a dewatering screen of 1mm polyurethane panels. The oversize from this screen is added to the HMS floats and is conveyed to the discard stockpile. The -1 mm slurry fraction is pumped via the HMS effluent pump box to the tailings thickener.

### **HMS Plant**

The HMS plant is of a standard modular design. The feed discharges onto a desliming screen fitted with water sprays, from which the fines fraction reports to the effluent sump and the oversize to the medium mixing box from where it is pumped to a heavy media cyclone. The HMS floats and HMS sinks report to separate horizontal vibrating screens where the bulk of the ferrosilicon medium is removed by drainage. Rinsing water sprays remove the remaining adhering medium on the products. The sinks are discharged into a secure 1t capacity container. The floats discard is conveyed to the tertiary screen section where it joins the - 3mm +1mm dewatering screen oversize and passes to the discard stockpile.

### Sorting House and Final Recovery

During the bulk sample, the quantity of concentrate which had to be sorted posed a security and operational problem. This was alleviated by using a series of 450mm diameter screens sized at 20mm, 12mm and 9mm to wet screen the concentrate and separate the larger tanzanite gemstones first.

The sorting house will contain two double deck Sweco screens fitted with 20mm, 12.5mm, 5.15mm and 3.3mm decks. From the HMS concentrate size analysis, the expected weight percentages on each screen are shown in Table 4.4.

Table 4.4. Expected Weight Splits on Different Screens

Screen Size	Weight Split (%)	
+ 20mm	40	
- 20mm + 12.5mm	24	
- 12.5mm + 5.15mm	24	
- 5.15mm + 3.3mm	9	
- 3.3mm	3	
TOTAL	100	

The finer screen sizes compared with those used during the bulk sample became necessary as the -9mm fraction took by far the greatest amount of time to sort. After sorting, the stones will be cobbed and graded prior to despatch.

### **Effluent Treatment and Water Reticulation**

The HMS plant effluent will be pumped to the thickener which will allow clarified water to overflow into the 50m³ process water tank. Thickened tailings will be pumped to the new tailings settling facility. It is expected that the thickener will not need any flocculant. It was originally sized to treat 28t/hr of milled solids (-0.6mm), in contrast to the 2t/hr to 5t/hr of -3mm solids expected in future.

### 4.4 Infrastructure

The Merelani Tanzanite Mine site is well serviced with existing infrastructure. Power is available from Tanesco, the Tanzanian Electricity Supply Company, via a 2MW line that feeds the distribution board located adjacent to the plant site. Due to regular power-outs experienced with this supply, a 400kVA diesel generator was installed at the plant. It is sufficient to supply all the power requirements of the plant and associated infrastructure. Three separate 250kVA generators will be installed adjacent to the mineshaft area, which will supply power for the mine and all infrastructure associated with the mine area, including the accommodation, offices and Top Camp. The marginal benefit to be derived from grid power over dieselgenerated power was seen to be insufficient to cover the risk of power outages. Consequently, all power supply has been based on diesel generators.

Water for the plant and mine and potable water is drawn from two boreholes situated adjacent to the plant. A new pipeline will be installed to pump water to a 150kl reservoir situated at Top Camp. Consumption is estimated at 115kl/day. Written confirmation has been received from the Ministry of Water that a water permit for the extraction of this water will be issued.

Other infrastructural requirements (sundry buildings, sewage treatment plants, access road upgrade, water purification) have been allowed for in the capital estimates.

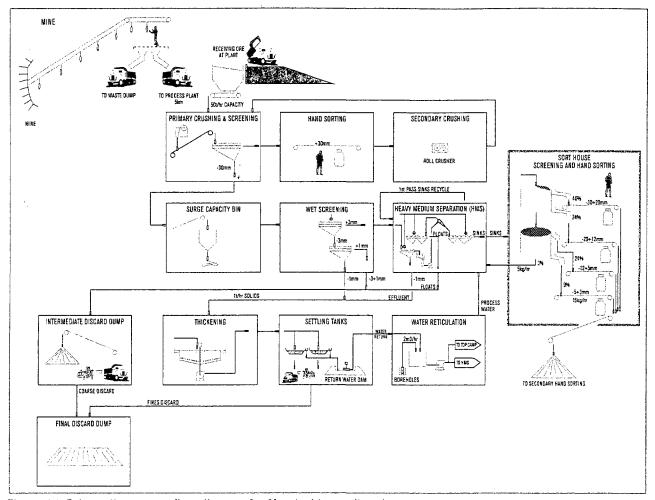


Figure 4.6 Schematic process flow diagram for Merelani tanzanite mine

### Tailings and Waste Management

Analysis showed that due to its high sulphide content, the risk of significant acid mine drainage production from the new tailings material will be high. The existing tailings dam appears to have had some influence on the borehole water quality in the form of elevated salt levels, but is considered to have a low acid generation potential. The water quality results indicate that the ground water may be suitable for limited industrial and domestic use, but is not recommended for potable use.

The existing tailings dam was considered to be unsuitable for re-commissioning since:

- · the as-built condition does not conform with the original design drawings;
- the geotechnical, geological and hydrogeological conditions of the materials beneath the existing dam are not known;
- the drains, seepage controls and penstock systems would have to be completely exposed to determine their adequacy;
- the dam is immediately upstream from the primary water supply boreholes; and
- a lined-facility will be required to handle the high acid-generating potential of the new tailings.

All fine tailings (-1mm) will be pumped to concrete-lined settling ponds where the solids can settle and the free water decanted for return to the process plant. The settled fine material will be co-disposed with the coarse fraction (+1mm -30mm) in a fully lined discard dump. Both these facilities are within 500m of the plant. Seepage from the coarse discard dump will gravitate via a system of toe drains and seepage collection trenches to a return water dam.

Waste rock generated from underground mining will be limited to the station breakaway developments in footwall material needed to link the decline shaft to the planned on-reef development drives. This waste material will be placed in a profiled dump 100m from the shaft head on the footwall side of the JWZ.

Provision has been made for the concurrent rehabilitation of both the tailings discard dump and the waste rock dump.

Environmental considerations were addressed in the feasibility stage of the project. In view of the differences in the operations of MML and Graphtan, and the changes in legislation since 1993, MML commissioned JSB to update the existing EIA for the new mining project. As part of the EIA, JSB compiled recommended mitigation measures for the mine to address the primary environmental impacts, which were based on the findings of the feasibility study and a public involvement process. This was done in accordance with a Terms of Reference which had been agreed with the Director of the NEMC.

The main finding of the EIA was that the mine will have a positive social impact on the environment, although there will be impacts to be managed during the LoM. The mine is seen to provide significant socio-economic benefits to the region. The EIA identified component impacts and made recommendations in terms of actions to manage these environmental impacts. MML is drafting its proposed EMP which once agreed with the NEMC, will become the EMP for the mine. MML is making provision in the EMP for ongoing monitoring of water quality, respirable dust and noise as well as a mechanism to fund social investment initiatives in the local community.

Environmental management infrastructure identified in the EIA will be financed out of project capital. Ongoing rehabilitation and environmental management will be funded out of working costs. An estimate for final closure costs, assuming ongoing rehabilitation, has been determined. MML has made an initial provision in its accounts towards the cost of closure. Supplementary amounts from annual profits during the operational life of mine will be transferred into this provision to ensure that adequate funds are available for final closure.

The limited public involvement programme undertaken as part of the compilation of the EIA yielded valuable input from the local communities. Concerns expressed include environmental monitoring, management of impacts and the availability of water. The mine will provide accommodation for its employees on a single basis and will employ local people subject to skills availability. MML's intended monitoring and EMP as regards the concerns raised is subject to final approval by the authorities and further revisions are therefore possible. The application for water extraction permission has requested an extraction rate which will provide sufficient water to supply the mine with all its needs and continue to supply water to the local community.

It is important to note that MML is already in possession of a SML, for which there is a valid EIA/EMP. MML has demonstrated its willingness to be a responsible operator by commissioning JSB to update the EIA in accordance with new laws of relevance to the mine and a Terms of Reference agreed with the NEMC. The proposed EMP (supported by the EIA) will be submitted under cover of a letter to the NEMC, who, subject to minor corrections, should accept the EMP.

### 4.7 Social Investment Initiatives

Afgem plans to create a trust which will administer its Social Investment Initiative. An initial contribution of R1.59 million has been provided in the capital estimates for the trust to fund selected projects. It is Afgem's intention that all projects undertaken will be based on prioritised needs of the local communities, as discussed and agreed with them.

### 4.8 Security

An integrated security philosophy has been adopted by MML which is designed to minimise risk, to match the level of security with the stage in the process so that the product security is not compromised and to be integrated with the processing plant so that operating efficiencies are not affected.

The shaft and plant/sorthouse have been identified as maximum security areas. All access to each of these areas will be controlled through a turnstile with random security checking. A system of dual change rooms, one for day clothes separated from a second for working clothes, has been implemented. All maximum security areas will be secured with electrified fences within an outer fence of razor mesh.

The entire perimeter of the plant area and a 3.5km² area around the mining area and Top Camp will be enclosed with razor mesh. The length of the haul road from the plant to the mining area will be similarly fenced. A 10m wide road reserve inside the razor mesh has been allowed to carry the water pipeline from the plant to the mining area.

All shipments of recovered tanzanite will be conducted at random and taken by helicopter or guarded vehicle convoy direct to KIA.

An elaborate set of monitoring equipment connected to a central control room will provide the core of the security system.

5

5.1

5.2

This is augmented with control equipment installed at all access points and regular patrols along key perimeter fences. Fully manned security will be provided on a 24 hour day basis all year round. This will be achieved using three teams working two 12 hour shifts, on a six day on and three day off rotational basis.

### MARKETING

## 5.1 Valuation of the Rough

The Jewellery Council confirmed that the prices contained in the price guide for rough tanzanite (see Table 5.1) were realistic. A range of prices for each size/colour category is presented. The shaded blocks in Table 5.1 indicate that for stones less than 5ct in mass, only an A or B-quality classification is used.

A value for each sample was determined using the size/colour classifications derived by Afgem (discussed in Section 3.1.6) and the average price in each size/colour category from Table 5.1. An audited valuation of the rough was obtained from the Jewellery Council (see Table 5.2). The difference in value between the Afgem result and the Jewellery Council audit of some 1% is not seen to be significant. Thus, the values as determined by Afgem from the grading and valuation exercise, and as monitored by SRK, can be taken as valid.

Table 5.1. Price Guide for Cleaned/Cobbed Rough Tanzanite (based on wholesale dealer selling prices in Merelani, Arusha and Moshi, Tanzania)

Size (ct)	A – Quality (\$/ct)	B – Quality (\$/ct)	C - Quality (\$/ct)	D - Quality (\$/ct)
0.05 - 2.45	8 - 10	5 - 7	Assertion of the second	#SAZEUF.C
2.5 - 3.95	22 - 24	18 – 20		
4.0 - 4.95	44 - 50	28 - 32		
5.0 - 9.95	50 - 70	38 - 42	20 - 30	
10.0 - 24.95	70 – 90	50 - 70	30 - 40	18 - 24
25.0 +	90 - 110	70 – 90	40 - 60	30 - 36

Table 5.2. Comparison of Values Ascribed by Afgern and Jewellery Council to Selected Samples

Sample		Value (US\$)		
	Afgem	Jewellery Council		
	(a)	(b)	(b-a)	(b-a)/a
W8 (HMS)	69 124.15	68 255.60	-868.55	-1.26%
W6 (HMS)	11 492.95	11 187.20	-305.75	-2.66%
W6 (Face)	4 710.50	4 923.10	212.60	4.51%
Sub Total Winze	85 327.60	84 365.90	-961.70	-1.13%
R15	2 037.40	2 101.25	63.85	3.13%
R17	8 729.45	8 654/25	-75.20	-0.86%
R22	4 554.80	4 345.00	-209.15	-4.61%
Sub Total Raise	15 321.65	15 100.50	-221.15	-1.44%
TOTAL	100 649.25	99 466.40	-1 182.50	-1.18%
Average (\$/ct)	15.26	15.08	0.18	

### **Cutting and Polishing**

Afgem personnel took a selection of rough tanzanite from the bulk sample and subjected the stones to its standard beneficiation process. SRK monitored the complete cutting, heat treatment and polishing process and can therefore provide independent confirmation of the recoveries obtained (Table 5.3).

Table 5.3. Polishing Recoveries for Different Quality Tanzanite

Quality	Cut Weight (ct)	No of pieces Av.	Recoven
A	70.95	32	32.5
3	52.77	27	28.
C	8.64	8	_ 23.0

Due to the low proportion recorded in the bulk sample, the use of such a small sample to confirm the recovery of C-quality tanzanite stones is acceptable.

Many of the stones sold at the Tucson and Hong Kong Trade shows (see section 5.3) were cut and polished from tanzanite taken from the bulk sample. This offered the opportunity to confirm the relative accuracy of the graders' initial assessments of the stones' quality, summarised in Table 5.4. These can be compared with the result of the Jewellery Council audit of the rough.

Table 5.4. Accuracy of Quality Assessments of Rough Tanzanite as Confirmed by Polishing

Jewellery Counci	Stones cut for	Stones cut for	Assessed Quality	
Audi	Hong Kong Show	<b>Tucson Show</b>	As Polished	n Rough
949	87%	83%	А	Α
. 4%	3%	17%	В	Α
1%	3%	0%	Α	В
1%	7%	0%	С	В

### 5.3 Sales of Polished Gemstones

Sales figures for the Tucson Gem Show (2 – 7 February 2000), the Hong Kong International Jewellery Show (6 – 9 March 2000) and the local market (financial year 1999/2000) were independently analysed by SRK. Distinct differences in the nature of conducting business in these three localities were evident, based on the pricing structures derived from the analysis. These differences can be attributed to a number of issues, principally the discounted prices offered at shows and non-optimum payment terms received.

The prices from the three sources were combined as shown in Table 5.5 to establish a simple composite wholesale pricing matrix for polished tanzanite, similar to that shown in Table 5.1, which could be used in the valuation discussed in section 8 of this CPR.

Table 5.5. Composite Price Guide for Polished Tanzanite

Size (ct)	0 - 2.45	2.5 - 3.95	4.0 - 4.95	5.0 - 9.95	10.0 - 24.95	25.0 +
A-Quality (\$/ct)	95	200	225	275	315	325
B-Quality (\$/ct)	65	140	175	, 200	225_	250

As there were very few C-quality stones sold, it was not possible to extract a meaningful set of selling prices for this grade of stones.

### 5.4 Market Outlook

### 5.4.1 Market Demand

Despite the lack of direct statistics, the gemstone market worldwide is seen to be undergoing tremendous growth. The consumption of tanzanite has increased dramatically over the last five years, while supplies are waning. Tanzanite has shown unexpectedly high market penetration in the USA and achieved the status of being the second best selling coloured gemstone in that market since 1997 (see Table 5.6). The dip to third place in 1999 is attributed to a reduction in supply

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arising from the flooding of the artisanal workings in 1998/9. This translates into an international wholesale market in 1999 of US\$100 million for rough tanzanite and US\$150 million for polished tanzanite. The gemstone market worldwide has enjoyed widespread growth over the past decade. The USA market has grown by 5% per annum for the past 10 years and is expected to continue to do so in the future. Current tanzanite international sales can be split into different regional markets as shown in Table 5.7.

It has been stated that blue is the most popular colour in gems. The stability of demand for the colour blue in gemstones is a key attribute to the benefit of tanzanite. While demand for colours such as pink or orange tends to fluctuate, the demand for blue gems has been consistent over time.

Table 5.6. Ranking of Sales of Coloured Gemstones in USA by Value (source: Colored Stone magazine, Jan 2000)

Sales Ranking	1995	1996	1997	1998	1999	2000 (Forecast
1	Sapphire ,	Sapphire	Sapphire	Sapphire	Sapphire	Sapphire
2	Ruby	Ruby	Tanzanite	Tanzanite	Ruby	Tanzanite
3	Emerald	Emerald	Amethyst	Ruby	Tanzanite	Ruby
4	Amethyst	Tanzanite	Ruby	Emerald	Emerald	Emerald
5	Tanzanite	Tourmaline	Emerald	Tourmaline	Tourmaline	Tourmaline

Table 5.7. Current Tanzanite Market Share by Region

Region	Market Share(%)	
USA	70	
Asia - Pacific (Far East)	15	
Other, including Southern Africa	10	
Europe (mainly Germany and Italy)	5	
Asia - Arabia (Middle East)	0	

### 5.4.2 Market Supply of Tanzanite

The supply of tanzanite has been adversely affected in recent years by a number of developments in the mining area at Merelani:

- the flooding of many of the artisanal workings during 1998/9;
- the increasing depth of the artisanal operations, without the support of adequate services (e.g. air, ventilation, water, hoisting and pumping); and
- · the availability of ground for the artisanal workers to mine (they no longer have free access to Block 'C' from surface).

Afgern has evaluated the supply of tanzanite from the Merelani area and believes that the downward trend in supply from the artisanal miners on Blocks 'B' and 'D' will continue (see Figure 5.1). Also shown in Figure 5.1 is the projected production from the Merelani Tanzanite Mine which follows the trend of an increase in demand in world markets.

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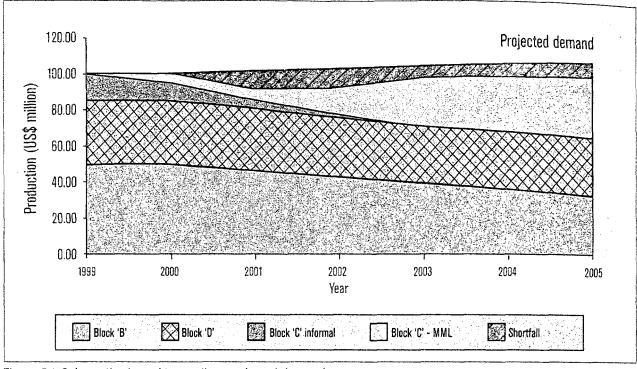


Figure 5.1 Schematic view of tanzanite supply and demand

Notes: i) MML Block 'C' peak production based on steady state 1.5 million ct/year ii) Projected demand is based on current demand increased by US inflation

Afgem believes that on the basis of its marketing strategy, the demand for tanzanite could grow more rapidly than that shown in Figure 5.1. Through responsible supply patterns, Afgem aims to capitalise on the strong international market demand whilst at the same time maintaining stability in international tanzanite pricing. Afgem intends to develop new and unexploited markets for tanzanite, which are expected to bolster international sales demand.

### 5.4.3 Basis for Expected Sales Growth

Afgem's sales to the local markets have in the past been hindered by the limited supply that was available for purchase. Local demand exceeded supply which restricted Afgem's international sales. Limited cutting facilities at the time also hindered the sales that could have been achieved. Afgem attended international trade shows at Tucson and Hong Kong with great success. Orders placed by dealers at these shows will be filled as soon as expanded cutting facilities have been established.

The South African market for coloured gemstones other than tanzanite is seen to be mature. Accordingly, the sales volume of other coloured gemstones is expected to remain static while the sales value is expected to grow in line with international trends discussed above.

Afgem sees South Africa as a growth market for tanzanite. Sales achieved in the 2000 financial year were better than expected, chiefly due to improved supply. With the guaranteed supply from the mine and the increased marketing effort, Afgem expects considerable growth in the freesize tanzanite (single stones) market up to 2005, whereafter the demand is expected to stabilise. Unexpected demand for calibrated tanzanite has been experienced and this has been factored into the sales projections. (The term calibrated is used to describe parcels of stones that have been matched to a high degree of accuracy in colour, shape and size.)

Afgem is expanding its own cutting works (the Lapidary division of Afgem Marketing) in South Africa and has entered into a cutting agreement with a cutting works in Bangkok. This will ensure that the supply of polished tanzanite will be sufficient to satisfy the projected demand.

By acquiring Block 'C' of the Merelani Tanzanite Mine, Afgem has ensured that it will have a ready supply of tanzanite. In addition, it will be able to easily increase supply to meet improved market demand.

Afgem is confident that its internationally-orientated, focused marketing strategy will result in increased penetration into an expanding market.

### 5.4.4 Price Forecasts

Tanzanite's price has been historically volatile. A rise in the early 1980's found wholesale prices for extra fine goods peaking at US\$1000/ct in 1984, with an average of US\$750/ct. For the next nine years the supply exceeded demand and prices dropped, bottoming out at US\$200/ct in 1993. Prices have rebounded slowly since then to reach an average wholesale price in 1999 of US\$300/ct (Figure 5.2).

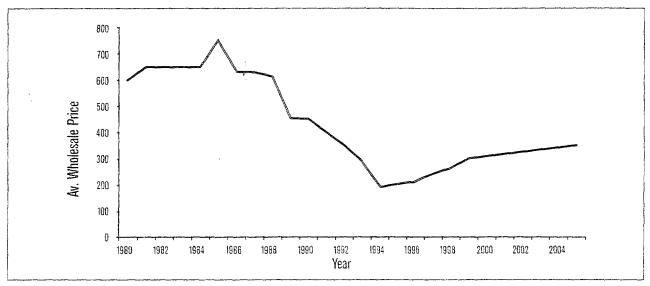


Figure 5.2 Historical and projected tanzanite prices

The projected prices for tanzanite are based on the short-to-medium view for tanzanite pricing as developed by Afgem (see Figure 5.2). Afgem intends to contribute to the price stability of tanzanite based on the assertion that any price fluctuation is regarded as detrimental to the market.

### SRK's Comments on Sales Growth

Based on the historical performance of the coloured gemstone market, the market outlook as presented and the assumptions used by Afgem to determine its forecasts, SRK believes that the projected growth in sales prices and growth in sales volume as reflected in this CPR is achievable.

### MANPOWER AND MANAGEMENT

### Tanzanian Operations

### 6.1.1 Manpower

It is MML's policy to employ Tanzanian nationals from within the local communities wherever possible, subject to the availability of suitable skills. A small team of expatriates will be used initially in key positions within the organisation. In terms of MML's draft EATP, MML plans to reduce the number of expatriates in the manpower complement within a defined period. During this time, the percentage of local employees is seen to grow from 90% to 95%. The Base Case total manpower complement at a steady state production of some 43 000tpa is 248 as summarised in Table 6.1. From 2010 onwards when some 75 000t of ore is mined annually, the complement increases to 300.

All employees will be employed on a single-status basis. With the exception of the security and domestic personnel, all workers employed at the mine will work a five and a half day week with a single shift per day. A second mining shift per day is required from 2010 onwards to handle the increased tonnage.

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Table 6.1. Manpower Complement at Steady State Production (as per Base Case Model)

	Mining	Plant	Gem House	Security	Engineering	Management & Admin	Total
43 000tpa	70	11	19	84	24	40	248
75 000tpa	119	11	19	84	24	43	300

### 6.1.2 Key MML Management Team

The MML on-site management team consists of the following persons:

Bruce Jones, PrEng, CEng, BSc (Hons) (Eng) (Mining), South African Mine Managers Certificate of Competency, FSAIMM, MIMM, ARSM - Managing Director

Bruce is a mining engineer who has extensive and broad executive, project, production and technical experience in a wide range of mining environments in Africa, Australia and the United Kingdom. Bruce spent some 23 years with Gold Fields of South Africa Limited rising from Learner Official to Technical Director of Gold Fields Coal division. During this time he spent five years as Mine Manager (at Deelkraal, Kloof and Northam Platinum) and two years as Consulting Engineer. He joined Afgem in March 2000.

Gordon McCormack - South African Mine Overseers Certificate of Competency - Manager Mining

Gordon has 15 years of experience in the Zimbabwe and South African mining industries. He has acquired considerable hands-on experience in shaft construction, room and pillar mining and stooping with MP Mines, Ermelo Mines and Bosveld Mines. He started his mining career at the Buchwa Iron Ore Mine in Zimbabwe. He joined MML in February 2000.

Glen Shaw - Manager Plant

Glen has over 30 years' operational and management experience in metallurgy, including nine years at various operations within the Metorex Group of Companies as Plant Superintendent, Gold Plant Manager and Metallurgical Superintendent (for Graphtan). In between working for Metorex, he spent two years at Barbrook Gold Mine. Prior to joining Metorex, he was employed by Falconbridge and Havelock Asbestos Mines Limited. He joined MML in April 1999.

Richard Beek - BBusSc (Hons Finance), G.G. (GIA) - Divisional Manager

Richard is a graduate gemmologist of the Gemological Institute of America. He has five years' experience in the gemstone industry, one of which was spent in the USA. He has worked for Invested Securities in Johannesburg and Standard Bank London. Richard has an excellent working knowledge of all aspects of the gemstone business, especially purchasing, grading and pricing of rough stones. He joined MML in September 1999.

Ernest de Kock - ACMA, IAC - Manager Administration & Finance

Ernest is a management accountant who has 23 years' experience in various accounting, finance and management positions in a range of industrial companies in southern Africa. He held a variety of Cost'and Management Accountant positions with subsidiary companies of Afcol and Wormald International between 1978 and 1985. From then through to early 2000, he was Finance Manager to subsidiaries of Anglovaal Industries, Africa Glass, Reutech Systems and Motor Company of Botswana. He also spent two years as Commercial Manager for a Unilever subsidiary. He joined Afgem in June 2000.

Mike Visagie - Manager Security

Mike is a security professional who has a wide range of qualifications specifically related to security management. He spent 15 years with the South African Police Services, rising to the position of Inspector. For the past two years, he has been the Security Operational Manager of New Africa Security covering security operations for diamond projects in central Africa. He joined MML in February 2000.

### Key Afgem Management Team

The key members of the Afgem management team comprise:

Mike Nunn - Chairman and Chief Executive Officer, Afgem

Mike has spent the last eight years in the gemstone business and has a wealth of knowledge, expertise and experience in all aspects of rough purchasing, grading, cutting, polishing and marketing of high value coloured gemstones. He has three years of gemstone mining experience and is highly regarded within the gemstone industry, both in domestic and international markets.

Mervyn Shein - BCom, CA(SA) - Group Financial Director, Afgem

Mervyn is a chartered accountant who spent seven years, two of which as partner, with Leveton Boner and Horwath, an international auditing firm. He was actively involved with Montana for five years via his own accounting practice, prior to joining Afgem in 1998. During this time, he has gained insight and practical knowledge of the coloured gemstone market.

Ivan Zelubowski - Divisional Manager, Lapidary Division

Ivan is a third generation master gemstone cutter and polisher with 11 years' experience, five of which were spent with Montana before being taken over by Afgem. His depth of understanding of cutting and polishing of tanzanite is unequalled in southern Africa. He has extensive experience with cutting machinery and technology, as well as the management and development of cutting factories.

Marilyn Chaimowitz - Divisional Director, Africa Division

Marilyn has five years' experience in the coloured gemstone industry, in which she has concentrated on the marketing of gemstones. She has been instrumental in developing Afgem Marketing's calibrated gemstone business, which enjoys a significant share of the local market.

Candice Nunn - Divisional Director, Overseas Division

Candice has eight years' experience in the sales and marketing of coloured gemstones and has established a wide international client base through attending and participating in various international gem trade fairs. Following two years spent purchasing, sorting and grading stones, she spent four years as Sales and Marketing Director for Montana and nearly two years as MD of Afgem Marketing. Under Candice's guidance and strategic management, sales have consistently exceeded all forecasts.

### **HEALTH AND SAFETY**

# Tanzanian Operations

MML will model its health and safety philosophy for the tanzanite mine on the guidelines and methods of the National Occupation and Safety Association (NOSA) of South Africa, structured to comply with The Mining (Safe Working and Occupational Health) Regulations, GN219 of 1999 of the Mining Act. A member of staff will be responsible for all safety, training, monitoring and record keeping in terms of MML's Health and Safety Policy. MML management is at present finalising this policy. Members in all crews across all operations at the mine will be trained and appointed as part-time safety representatives.

Medically trained personnel will run the clinic and train selected members in all crews in first aid. Such medical personnel in conjunction with the staff member responsible for safety and training will control the occupational health issues related to water quality, respirable dust, heat and noise as encompassed in MML's proposed environmental impact monitoring plan.

MML is committed to establish a trust, which will invest in the local community. A potential project involves the introduction of occupational health initiatives which will be aimed at minimising the risk of Tuberculosis and HIV/AIDSrelated infection and malaria by enhancing awareness of these diseases among employees and the local community.

### 7.2 Other Operations

Afgem will model its health and safety philosophy for its other operations on the NOSA principles, structured to comply with the relevant legislation pertaining to offices, laboratories and cutting works. A suitable person for each work area will be appointed as the responsible person in terms of the company's Health and Safety Policy.

### 8 TECHNICAL AND ECONOMIC VALUATION

### 8.1 Introduction

This section includes discussion and comment on the planned production rates and operating cost structures for each of the operations within Afgem. The planned production rates and operating cost structures for MML are based on the Base Case LoM plan developed for the mine in the feasibility study.

The expected sales volumes and associated operating cost structures for Afgem, Afgem International and Afgem Marketing have been taken from the respective strategic business plans, marketing plans and operating budgets of each operation. These have been subjected to thorough review by SRK who gives the necessary assurances that the technical and economic data presented below are valid and accurate as provided to SRK. The data, which have been taken in good faith, have formed the basis of the analyses and opinions expressed in this CPR.

### 8.2 Basis of Valuations and Input Parameters

Key aspects associated with the generation or confirmation of the technical-economic input parameters are discussed below. All revenue and cost profiles for Afgem cover the period of valuation of the Probable Ore Reserves at MML.

SRK has been informed that HSBC has used inflation accounting principles to take account of the forecast US\$-based change in tanzanite selling prices and Rand to US\$ exchange rates. All conversions of US\$ denominated costs and prices have used an average exchange rate of 6.65:1 for the financial year ending 28 February 2001.

The basis for **revenue** assessment is the estimated saleable rough or polished tanzanite as given in Section 8.3 and the price forecast as stated in Section 5.4. The delay in time from the sale of rough tanzanite to the receipt of the revenue by MML (the pipeline) has been set at 4.5 months. Normal sales terms of 45 days have been applied to all other sales revenues in deriving the timing of the cashflows. A royalty of 3% of the FOB value of tanzanite must be paid to the government of Tanzania when tanzanite is exported. In addition, MML is required to pay a consortium profit for five years after start of production at the greater of US\$ 100 000 or 5% of gross profit, as defined in the agreement.

All operating costs for MML were established in constant money terms in the feasibility study. Using the inflation indices set out in Table 8.11, the costs were converted into nominal terms. The basis for forward projections of operating costs for the sales and marketing operations generally includes an inflation adjusted cost based on the previous years' performance with certain modifications for projected productivity improvements as well as additional marketing activities. During its independent review, SRK generally did not adjust any of the projected costs. In depth questioning of the various operational managers as to the year-on-year changes in their divisional cost profiles has confirmed that the inflation adjustments have been consistently applied, or relate to structural changes in the division (e.g. additional workforce or larger premises).

The LoM capital expenditure programme for MML (both new and replacement capital) was determined in constant money terms as at May 2000 in the feasibility study. Using the inflation indices set out in Table 8.11, the capital costs were converted into nominal terms. The implementation programme for the Base Case has provided for a six-month construction and commissioning period, starting on 1 August 2000. This implies that production has been scheduled to start on 1 March 2001, to coincide with the start of Afgem's 2002 financial year. Capital projections for the sales and marketing operations cover replacement of existing assets and acquisition of new assets which are linked to specific structural changes in the company.

SRK conducted a detailed review of historical performance, as reflected in audited statements. Random sampling of the sales records was used to confirm the sales volumes and revenues. Although the reporting auditors have confirmed the accuracy of the historical results, SRK's review examined the operational characteristics of the sales-related activities of Afgem. Detailed questioning of key operational management regarding the actual results achieved in the 2000 financial year established the basis for the assumptions and strategies used in the sales projections and five-year plan. This enabled SRK to confirm that the assumptions and strategies incorporated in the sales and operating cost projections are consistent with past performance.

**Environmental costs** have been included in the operating costs and cover the costs of on-going monitoring and rehabilitation as set out in the proposed EMP. Included in the environmental operating cost is an annual contribution into a rehabilitation fund designed to accumulate sufficient funds during the LoM to cover the estimated cost of closure for MML. The closure cost includes environmental monitoring for a five-year period after closure and assumes that rehabilitation is done concurrently with operations. No salvage value for the equipment on site has been incorporated into the economic projections.

Provision has been made for a portion of the profits of MML to be paid to a trust for community development projects.

Afgem operates under a variety of tax regimes. With the announcement of intended amendments to the South African Income Tax Act relating to the taxation of foreign dividends in South Africa, dividends earned from its foreign subsidiaries become taxable in the hands of Afgem. However, certain credits for tax already paid by its foreign subsidiaries can be claimed in determining Afgem's tax liability in South Africa. Afgem's auditors have confirmed that the method to be used to calculate these credits has been correctly incorporated into the financial evaluation model.

### 3.3 Technical-Economic Input Parameters

The technical-economic parameters, which have been provided to HSBC for deriving the valuation, are summarised below, grouped by operating entity.

### 8.3.1 MML

### Capital Expenditure

The estimated capital expenditure for each of the first five financial years and LoM for MML is summarised in Table 8.1. The LoM capital requirement represents the total new capital envisaged to be spent during the planned 19-year LoM. Note that there are ongoing capital expenditures after the 2004/5 year, so that the total will not necessarily match the entries given. Replacement capital is not included in Table 8.1, but amounts to some R40 million over the LoM. Replacement capital has been included with new capital in the valuation model to ensure amortisation is correctly determined.

Table 8.1. Capital Expenditure for MML (R millions in nominal terms)

Financial Year ending February	2001	2002	2003	2004	2005	Total LoM
Capex					,	
Mining	1.45	2.32	2.34	1.61	0.50	13.31
Plant, including initial reagents	0.23					0.23
Sorthouse, including equipment, fittings & initial consumables	2.84					2.84
Tailings discard facilities	9.28					14.82
Infrastructure (including access road)	22.78	1.17				24.62
Social investment initiatives	1.59					1.59
Security	9.56					9.56
Pre-production expenses	10.85				•	10.85
Exploration	10,25	2.10	2.20	2.32	2.43	33.41
Other (including working capital and contingencies)	12.18	0.95	1.38	0.73	0.66	16.98
TOTALS	81.01	6.54	5.92	4.65	3.59	128.21

Financial Year ending February	2001	2002	2003	2004	2005	2006
Annual Operating Costs						
Mining		2.96	3.88	5.84	7.22	8.80
Plant	•	1.64	1.72	1.81	1.90	2.08
Sorthouse	-	1.64	1.95	2.41	2.53	2.66
Tailings (included elsewhere)	-	0.00	0.00	0.00	0.00	0.00
Administration / overheads	-	8.25	9.20	10.22	10.98	11.67
Security & helicopter	•	3.00	3.15	3.30	3.47	3.64
Environmental	-	0.24	0.25	0.26	0.28	0.29
Total Opex		17.73	20.16	23.84	26.36	29.13
Unit Production Costs						
R/t ore	-	6 714	2 800	913	814	673
R/ct	•	29.59	17.88	17.35	17.57	19.43

### 8.3.2 Afgem Marketing

Afgem Marketing was formed when it acquired the business and certain assets and inventory of Montana and Rolling Stone with effect from 1 March 1999. The merged company has been trading for over one financial year. Separate accounting records of sales by product were not historically maintained by Montana and Rolling Stone. It was therefore not possible to extract the trading history relating to the inventory items acquired by Afgem Marketing for periods prior to the year ending 29 February 2000.

The capital expenditure estimates for each of the first five financial years for Afgem Marketing and Afgem International are summarised in Table 8.3. Note that no capital expenditure is foreseen after the 2005 financial year.

Table 8.3. Capital Expenditure for Afgem Marketing and Afgem International (R millions in nominal terms)

2000	2001	2002	2003	2004	2005	Total
(actual)						
-	0.47	0.17	0.52	0.00	0.00	0.48
0.36	0.00	0.12	0.00	0.00	0.00	0.12
-	0.02	0.04	0.04	0.04	0.03	0.17
0.00	0.66	0.00	0.00	0.00	0.00	0.66
0.36	1.15	0.33	0.56	0.04	0.03	2.47
	(actual) - 0.36 - 0.00	(actual) - 0.47 0.36 0.00 - 0.02 0.00 0.66	(actual) - 0.47 0.17 0.36 0.00 0.12 - 0.02 0.04 0.00 0.66 0.00	(actual)  - 0.47 0.17 0.52  0.36 0.00 0.12 0.00  - 0.02 0.04 0.04  0.00 0.66 0.00 0.00	(actual)  - 0.47 0.17 0.52 0.00 0.36 0.00 0.12 0.00 0.00 - 0.02 0.04 0.04 0.04 0.00 0.66 0.00 0.00 0.00	-         0.47         0.17         0.52         0.00         0.00           0.36         0.00         0.12         0.00         0.00         0.00           -         0.02         0.04         0.04         0.04         0.03           0.00         0.66         0.00         0.00         0.00         0.00

### **Lapidary Division**

The Lapidary division was formed so that Afgem could exercise greater control over the beneficiation process and the resulting quality of the polished stones. The operating cost projections for the Lapidary division up to 2005 are set out in Table 8.4.

Table 8.4. Operating Cost Projections for Afgem Marketing - Lapidary division (R millions in nominal terms)

Financial Year ending February	2000	2001	2002	2003	2004	200
	(actual)					
Directors' Remuneration	-	0.00	0.00	0.00	0.00	0.00
Management Fee	-	0.00	0.00	0.00	0.00	0.0
Depreciation	•	0.23	0.27	0.44	0.44	0.2
Overheads incl. Commissions	•	88.0	1.59	1.67	1.75	1.84
Net Operating Cost	-	1.11	1.86	2.11	2.19	2.0

### Africa Division

The turnover achieved by the Africa division in the 2000 financial year is shown in Table 8.5, split into sales of tanzanite and all other coloured gemstones. The sales projections reflect the assumptions set out in Section 5 of the CPR. The operating cost and cost of sales projections up to 2005 are shown in Table 8.6.

Table 8.5. Projected Sales for Afgem Marketing - Africa division (R millions in nominal values)

Financial Year ending Febru	Jary	2000	2001	2002	2003	2004	2005
Revenue items	Units	(actua!)					
Sales Volume							
Freesize tanzanite	000 ct	1:.79	2.24	2.46	2.71	2.98	3.28
Calibrated tanzanite	000 ct	0.00	0.50	1.00	1.10	1.21	1.33
Other coloured gemstones	000 ct	2.10	2.10	2.10	2.10	2.10	2.10
Sales Revenue							
Freesize tanzanite		3.89	5.48	6.51	7.70	9.12	10.80
Calibrated tanzanite		0.00	0.67	1.40	1.62	1.87	2.16
Other coloured gemstones		2.59	3.06	3.29	3.54	3.80	4.09
Other revenue		0.49	-	-	•	-	-
Total Revenue		6.97	9.58	11.20	12.86	14.79	17.04
Average Selling Price							
Freesize tanzanite	R/ct	2 351	2 446	2 640	3 058	3 292	3 509
Calibrated tanzanite	R/ct	0	1 340	1 400	1 472	1 545	1 624
Other coloured gemstones	R/ct	1 457	1 633	1 567	1 686	1 809	1 948

Table 8.6. Operating Costs for Afgem Marketing - Africa division (R millions in nominal terms)

Calibrated tanzanite	000 ct	0.00	0.50	1.00	1.10	1.21	
Other coloured gemstones	000 ct	2.10	2.10	2.10	2.10	2.10	
Sales Revenue							
Freesize tanzanite		3.89	5.48	6.51	7.70	9.12	1
Calibrated tanzanite		0.00	0.67	1.40	1.62	1.87	
Other coloured gemstones		2.59	3.06	3.29	3.54	3.80	
Other revenue		0.49	0.00	0.23	0.04	3.00	
Total Revenue			0.50		1000	4470	
		6.97	9.58	11.20	12.86	14.79	1
Average Selling Price							
Freesize tanzanite	R/ct	2 351	2 446	2 640	3 058	3 292	3
Calibrated tanzanite	R/ct	0	1 340	1 400	1 472	1 545	1
Other coloured gemstones	R/ct	1 457	1 633	1 567	1 686	1 809	1
able 8.6. Operating Costs for	for Afgem I	Narketing - A	frica division	(R millions in	nominal term	s)	
Financial Year ending Febru	uary	2000	2001	2002	2003	2004	
Cost items		(actual)					
Cost of Sales							
Freesize tanzanite		1.73	2.77	3.32	3,93	4.65	
Calibrated tanzanite		0.00	0.33	0.70	0.81	0.93	
Other coloured gemstones		1.99	1.99	2.14	2.30	2.47	
other items		0.48		-	_		
Gross Margin		40%	45%	45%	45%	46%	
Advertising & Promotion			0.40	0.84	0.96	1.11	
Directors' Remuneration		0.12	0.15	0.16	0.17	0.17	
Management Fee		0.00	0.12	0.13	0.13	0.14	
Depreciation		0.09	0.02	0.05	0.05	0.04	
Overheads incl. Commission		1.52	1.69	2.06	2.30	2.56	
Net Operating Margin Befo	ore Tax	15%	19%	17%	18%	19%	

### **Overseas Division**

The turnover achieved by the Overseas division in the 2000 financial year is shown in Table 8.7, split into sales of tanzanite and all other coloured gemstones. The sales projections reflect the assumptions set out in Section 5 of the CPR. The operating cost and cost of sales projections up to 2005 are shown in Table 8.8.

Table 8.7. Projected Sales for Afgem Marketing - Overseas division (R millions in nominal values)

Financial Year ending February		2000	2001	2002	2003	2004	2005
Revenue items	Units	(actual)					
Sales Volume						-/	
Freesize polished tanzanite	000 ct	1.84	17.2	73.1	128.3	167.2	186.6
Rough tanzanite smalls	000 ct	-	50.7	437.7	635.2	811.5	899.4
Sales Revenue							
Freesize polished tanzanite		2.93	27.53	123.04	230.62	324.65	389.89
Rough tanzanite smalls		•	4.26	43.43	69.44	93.19	110.55
Other revenue		0.45	-		-	-	-
Total Revenue		3.38	31.79	166.47	300.06	417.84	500.44
Average Selling Price							
Freesize polished tanzanite	R/ct	1 592	1 600	1 683	1 798	1 942	2 089
Rough tanzanite smalls	R/ct	-	84	99	109	115	123

Table 8.8. Operating costs for Afgem Marketing - Overseas division (R millions in nominal terms)

Financial Year ending February	2000	2001	2002	2003	2004	2005
Cost items	(actual)					
Cost of Sales						
Freesize polished tanzanite	2.27	21.68	84.15	129.05	176.18	208.45
Rough tanzanite smalls	÷	3.55	36.19	57.87	77.66	92.12
Other items	-	•	-	-	-	
Gross Margin	23%	21%	28%	38%	39%	40%
Advertising & Promotion	*	2.63	8.32	15.00	20.89	25.02
Directors' Remuneration	0.30	0.15	0.63	0.66	0.69	0.73
Management Fee	0.45	0.78	2.01	2.06	2.21	2.34
Depreciation	0.00	0.01	0.02	0.03	0.03	0.03
Overheads incl. Commissions	0.17	2.17	7.22	11.54	15.80	18.34
& Agency Fee to Afgem International						
Net Operating Margin Before Tax	6%	0%	16%	27%	29%	30%

8.4

### 8.3.3 Afgem International

The actual results achieved by Afgem International in the 2000 financial year and the projected financial results up to 2005 are shown in Table 8.9.

Table 8.9. Financial Projections for Afgem International (R millions in nominal terms)

Financial Year ending February	2000	2001	2002	2003	2004	2005
Revenue/cost items	(actual)					
Revenue						
Agency Fee from Afgem Marketing	, -	0.69	1.73	2.89	3.11	3.34
Management Fee	• -	2.71	6.37	6.86	7.38	7.94
Costs	`					
Depreciation	-	-	0.14	0.15	0.15	0.16
Overheads	-	4.25	7.74	8.80	9.47	10.20
Interest Paid	-	0.18	0.13	0.07	•	-
Dividends to Afgem	•	-	0.10	0.73	0.86	0.93
Net Operating Margin Before Tax	•	(1.03)	(0.01)	0.00	0.01	(0.01)

### 8.3.4 Afgem

The actual operating expenses incurred by Afgem in the 2000 financial year and the projected costs up to 2005 are shown in Table 8.10.

Table 8.10. Cost Projections for Afgem (R millions in nominal terms)

Financial Year ending February	2000 (actual)	2001	2002	2003	2004	2005
Costs						W. 14
Directors' Remuneration	0.09	1.20	2.20	2.31	2.43	2.55
Admin expenses	0.42	1.03	1.10	1.13	1.17	1.23

### Methodology used by HSBC in deriving the Valuation

The economic valuation of Afgem was conducted by HSBC using the discounted cashflow method ("DCF"). The DCF incorporates an evaluation of the free cashflows generated within Afgem which provides a company internal rate of return (IRR). The following assumptions were made in performing the calculations:

- the DCF has been performed over 19 financial years commencing 1 March 2000;
- inflation rates per annum for the USA of 2.8% for 2001 and 2.5% thereafter and for South Africa (5.7% for 2001 and 5% thereafter) respectively, have been used (see Table 8.11);
- the annual attrition rate of the Rand to US\$ exchange rate averages 3.7% over LoM. Inflation targeting is seen to reduce the country risk premium which is added to the differential between the USA and South African inflation rates (see Table 8.11);
- the forecast Rand to US\$ exchange rates as provided by HSBC are given in Table 8.11. At the time of finalising this CPR, HSBC assumed the average exchange rate for the year ended 28 February 2001 to be R6.65=US\$1.00;
- applicable forecast sales prices for tanzanite, both rough and polished, calibrated tanzanite and other coloured gemstones were applied to the respective production or sales volumes in a given year to obtain gross US\$ revenues. These were converted into nominal Rand revenues using the exchange rate for that year;
- capital and operating costs for each operating entity were estimated in real 2001 financial year terms for each year of the LoM and escalated using the applicable inflation rate to achieve nominal Rand cash amounts for each financial year. It has been assumed that there will be no salvage value for any of the assets at the end of the LoM. Annual contributions into a rehabilitation trust fund will ensure that there are sufficient funds to cover the estimated closure cost for MML and the environmental monitoring costs for five years after closure. An active rehabilitation programme during operations will limit the rehabilitation cost at closure;

- all applicable Tanzanian taxes for MML and South African taxes for Afgem Marketing have been calculated and included in the DCF.
- all South African normal taxation, foreign dividend taxation and secondary tax on companies ("STC") payable by Afgem
  as a holding company has been calculated and included in the DCF. The STC has been calculated, net of STC credits,
  on the total value of the free annual cashflows even though Afgem's expected dividend cover will result in a lesser STC
  liability. All foreign derived dividends have been included;
- nominal group-wide cashflows were calculated as Gross Profit Royalties Opex Subsidiary dividends and tax Capex
   Working capital changes, incorporating translation differences, changes in long term liabilities and changes in share capital (all in nominal terms);
- the nominal group-wide cashflows were then deflated back to June 2000 values at the infution rates used; and
- nominal and real group-wide IRR's were calculated from the above cashflows.

Table 8.11. Forecast Economic Indices from HSBC

Financial year	2001	2002	2003	2004	2005	2006	2007	2003	2009
ending February									
SA Inflation Rate	5.7%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
USA Inflation Rate	2.8%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
SA R:US\$ attrition rate			5.0%	5.0%	5.0%	4.0%	4.0%	4.0%	4.0%
Currency R:US\$	6.65	7.00	7.35	7.72	8.10	8.43	8.76	9.12	9.48

### 8.5 Summary of the HSBC Valuation

A summary of the financial evaluation as developed by HSBC is shown in Table 8.12, with the following conclusions for the Base Case:

- a group-wide IRR of approximately 35% (nominal) and 29% (real);
- a listed market capitalisation of approximately R543 million with some 136 million shares in issue at a nominal discount rate of 35%.

Table 8.12. Afgem Consolidated Financial Evaluation Extracted from HSBC Model (R millions in nominal terms)

Financial Year ending February	2000	2001	2002	2003	2004	2005
Revenue/cost items	(actual)					
GROUP-WIDE EVALUATION						
Revenue	8.53	41.00	177.67	312.92	432.63	517.48
Cost of Sales	4.35	19.38	33.57	41.72	53.56	57.78
Royalties (paid in Tanzania)	0.10	1.76	3.16	6.02	7.93	9.20
Total Opex	2.39	12.49	34.52	53.21	69.49	82.09
Cashflow from Operations	1.69	7.37	106.42	211.97	301.65	368.41
Dividends & Tax Paid - Subsidiaries	-	0.37	3.63	15.57	93.63	130.95
Total Capex	27.83	75.32	38.74	13.72	12.78	13.84
Increase in Working Capital	4.78	13.64	16.97	12.47	4.76	4.80
Long-term Liabilities	12.00	0.15	(2.48)	(0.85)	-	-
Increase in Share Capital	22.03	116.60	-	J.	•	-
CFBT - Holding Company	3.11	34.79	44.60	169.36	190.48	218.82
Tax Payable - Holding Company	-	3.05	3.15	12.58	11.27	12.07
CFAT	3.71	31,74	41.45	156.78	179.21	206.75
Nominal Cashflows attributable	3.11	31.74	41.45	156.78	179.21	206.75
to Shareholders						
IRR	35%					
Real Cashflows	3.11	30,86	38.39	138.26	150.52	165.38
IRR	29%					

A range of selected alternative scenarios was applied to the group-wide financial evaluation with the results shown in Table 8.13. The purpose of the alternative scenarios is simply to show the sensitivity of the Afgem evaluation to certain key variables.

Table 8.13. Sensitivity Analysis for Different Scenarios

Scenario Description	Nominal Group-wide IRR (%)	
Reduced the recovery of polished from rough by 20%	30.4	
Increased the R:US\$ exchange rate to 7.00 and 7.35 in 2001 and		
2002, respectively (thereafter according to the R to US\$ attrition rate)	36.5	
Selling prices constant (removed annual USA inflation price adjustment)	30.7	
Còmpany taxation in Tanzania and South Africa set at 40%	34.5	
Selling prices of polished tanzanite		
· increased by 10%	38.2	
decreased by 10%	32.1	
Group-wide debtors days increased from 45 to 60 days	34.6	

### 3.6 Special Factors

In completing SRK's review of the technical-economic inputs of Afgem and its subsidiaries, a number of risks and opportunities are clearly evident, the more important of which are detailed below.

### 8.6.1 General Risks and Opportunities

- political and economic stability in Tanzania;
- · future mining and environmental legislation;
- · labour productivity and operational management performance; and
- health and safety performance, including the impact of HIV and AIDS.

### 8.6.2 Operational Specific Risks

The principal risk associated with the Merelani Tanzanite Mine relates to the extent of the artisanal workings. These have not been properly surveyed, so the impact of these workings, especially near the boundaries of Block 'C' with Blocks 'B' and 'D', is not known. This risk has been partly reduced due to the lateral truncation of the resource model near these boundaries,

The decrease in production from Blocks 'B' and 'O' with time may be much greater than expected, resulting in a significant shortage in the supply of tanzanite into the market. This could result in two potential risks for Afgem - instability in the international price of tanzanite and increased artisanal activity into Block 'C' from the adjoining Blocks.

### 8.6.3 Operational Specific Opportunities

The principal opportunities identified at Merelani Tanzanite Mine relate to the potential to increase the resource by confirming the depth extent of the JWZ to 300m, confirming the presence of additional payahoots and confirming the mineralisation content of the other tanzanite-carrying horizons. This will afford Afgem the means to increase production of tanzanite. The possibility of mechanised/optical sorting has still to be fully investigated.

With the advantage of improved supply, Afgem will be able to become more aggressive in its marketing strategy, the potential benefits of which are impossible to incorporate into the sales and financial projections.

### 8.7 Concluding Remarks

The views expressed by SRK in this CPR have been based on the fundamental assumptions that the required management resources, pro-active management skills and access to adequate capital necessary to achieve the LoM plan projections for the operations are sustained.

SRK has conducted a comprehensive review and assessment of all material issues likely to influence the future operations of Afgem. The LoM plan is economically viable even if no further payshoots are identified. The long term plans for the marketing operations as provided to and taken in good faith by SRK have been reviewed in detail for appropriateness, accuracy and viability, including the existence and justification for any departures from historical performance. Where material differences were found, these were discussed with management and adjusted where considered appropriate. SRK considers that the resulting technical-economic projections have been based upon sound reasoning, engineering and business judgement and practically achievable mine and sales plans, within the context of the risks attached to the coloured gemstone industry.

SRK confirms that the technical-economic inputs projections have been correctly incorporated into the financial model compiled by HSBC.

Dr. O.K.H. Steffen
Director and
Corporate Consultant,
for and on behalf of
Steffen, Robertson and Kirsten (South
Africa) (Proprietary) Limited

Dr. M. Harley Principal Geologist, SRK Consulting

Mr. M. Wertz Senior Mining Engineer, SRK Consulting

Mr. E. Matthews Senior Civil Engineer, SRK Consulting Mr. H.G. Waldeck
Director and
Principal Mining Engineer,
for and on behalf of
Steffen, Robertson and Kirsten (South
Africa) (Proprietary) Limited

Mr. P. Weyers Principal Civil Engineer, SRK Consulting

Ms. J. Joughin Principal Environmental Scientist, SRK Consulting

Mr. A.J. McDonald Associate Consultant, SRK Consulting

### **DETAILS OF SUBSIDIARY COMPANIES** (6 (a)(i), (b), (e) (i)) [7.D.1 (a) (b), 7.D.2, 7.D.3]

### SUBSIDIARY COMPANIES

Name of subsidiary company and registration number	Directors	Date and place of incorporation (South Africa unless stated otherwise)	Issued ordinary share capital (Rand)	% heid directly	Business	Effective date of becoming a subsidiary
						( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )
African Gem Marketing (Pty) Limited	M Shein C L Nunn M E Chaimowitz N Hurwitz	10 December 1998	100	100	Marketing of coloured gemstones	10 December 1998
Afgem International Limited	M J Nunn M Shein Clemont Corporate Services Limited	6 July 1999 (British Virgin Islands)	635	100	International marketing of coloured gemstones	6 July 1999
Merelani Mining Limited	A R Mpungwe M J Nunn M Shein K B K Jones H Nyiti	22 October 1998 (Tanzania)	326	75	Mining and exploration	22 October 1998

There is no government protection or investment encouragement law affecting the business

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### SALIENT FEATURES OF THE SHARE INCENTIVE SCHEME [7.A.24]

### 1 INTRODUCTION

- The existing terms and conditions of the scheme are recorded in the deed constituting African Gem Resources Limited Employee Share Incentive Trust ("the trust").
- 1.2 A summary of the salient features of the scheme (as amended) is set out below.
- 1.3 For the purposes of the scheme, "Group" comprises African Gem Resources Limited ("Afgem"), its subsidiaries and any other entity controlled or jointly controlled by Afgem from time to time (collectively "the Group").

### 2 NUMBER OF ORDINARY SHARES TO BE MADE AVAILABLE FOR THE PURPOSES OF THE SCHEME

- 2.1 The aggregate number of shares which may be made available for the purposes of the scheme shall not be more than 20% of the issued capital from time to time of Afgem, equating to 27 164 036 ordinary shares on the date of listing of the entire ordinary issued share capital of Afgem on the Johannesburg Stock Exchange ("JSE").
- 2.2 The aggregate number of shares which may be acquired by any one participant under the scheme shall not be more than 3% of the issued share capital from time to time of Afgem, presently equating to 4 074 605 ordinary shares in the capital of Afgem on the date of listing of the entire ordinary issued share capital of Afgem on the JSE.
- 2.3 The percentages set out in 2.1 and 2.2 shall not be exceeded without prior authority of the shareholders of Afgem in general meeting and the approval of the JSE.

### 3 THE AFRICAN GEM RESOURCES LIMITED SHARE INCENTIVE TRUST

- 3.1 The board of directors of Afgem ("the board") shall be entitled to appoint, remove and replace the trustees of the trust. There shall at all times be a minimum of two trustees in office. The trustees may not be participants under the scheme. The current trustees are James Douglas Hill and Nicole Karen Mer.
- 3.2 In accordance with the provisions of the Companies Act, 1973 ("the Act"), the trust will be funded out of its own resources, loans by the Group in accordance with the provisions of Section 38(2)(b) of the Act, loans by third parties and/or any other resource which is available to the trust.

### 4. PARTICIPANTS AND MANNER OF PARTICIPATION

Participants in the scheme may be officers or other employees of the Group, including directors and non-executive directors, selected by the board. Participants may be offered the opportunity to acquire shares in terms of the so-called credit sale scheme, option scheme and combined-option/deferred sale scheme.

The price per share payable by a participant for scheme shares shall be -

- 4.1 Not less than the middle market price at which shares are traded on the JSE on the trading day immediately preceding the day upon which the board will have resolved to grant or direct the trustees to grant or make the relevant option or offer as the case may be, in the case of shares; or
- 4.2 Not less than the price at which shares are listed on the JSE in respect of offers made or options granted prior to the date upon which the entire issued share capital of the company is listed on the JSE.

### 5 CREDIT SALE SCHEME

The salient features of the credit sale scheme are set out hereunder -

5.1 under this scheme, shares ("scheme shares") are sold by the trust to participants on the basis that ownership thereof passes to participants on conclusion of the contract of sale but the purchase price need not be paid

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immediately. However, participants may be required to make an initial payment for their scheme shares as stipulated by the board in consultation with the JSE. The balance of the amount due (together with interest thereon, if any - see 5.4) is hereinafter referred to as the "share debt";

- 5.2 the amount payable by a participant for his scheme shares shall, in respect of the allocation, be at the middle market price at which Afgem shares are traded on the JSE on the trading day immediately preceding the day on which the board will have resolved to grant an offer to acquire to a participant;
- 5.3 scheme shares will be registered in the names of participants and will be pledged in favour of, and retained by, the trust as security for payment of the share debt;
- 5.4 subject to certain limitations, a participant's outstanding share debt will bear interest at such rate (if any) as may from time to time be determined by the board. Dividends on scheme shares will be paid to the trust and be applied in payment of such interest, and as to any excess-
- 5.4.1 in payment to the trust by way of reduction of the share debt; and
- as to any balance (if any) to the relevant participant; 5.4.2
- 5.5 unless the board otherwise resolves at any time, notwithstanding that any scheme shares are paid for, in whole or in part, at any time by the participant concerned, no scheme shares shall be released from the scheme or from the pledge until a period calculated from the date of the actual acceptance of an offer for scheme shares or deemed date of acceptance and -
- 5.5.1 not less than 1 year has elapsed, in which event not more than 20%;
- not less than 2 years has elapsed, in which event not more than 50%; 5.5.2
- not less than 3 years has elapsed, in which event all of the scheme shares; 5.5.3
- the whole of the share debt must be paid by a participant by not later than the fourth anniversary of the acceptance date; 5.6
- 5.7 if a participant's employment with the Group terminates -
- 5.7.1 by reason of his summary dismissal or on grounds of his proven dishonest, fraudulent or grossly negligent conduct, the sale in respect of such of the participants' scheme shares which were not released in terms of 5.5 above and/or in terms of 5.6 above, will be deemed to have been cancelled on the basis that the participant shall be refunded in respect of any amount actually paid in reduction of the liability for such scheme shares;
- 5.7.2 as a result of his death, retirement or retirement due to ill-health, he or his executors shall be entitled to pay the whole or any part of his share debt and take delivery of the shares so paid for within 12 months after such termination; and
- 5.7.3 for any reason other than the above, the participant will be entitled within 60 days after such termination to pay the balance of his share debt attributable to those scheme shares which were capable of being released to him at the date of such termination and the sale of his remaining scheme shares will be deemed to have been cancelled on the basis that the participant shall be refunded in respect of any amount actually paid in reduction of the liability for such scheme shares, provided that the board will, in consultation with the JSE, be entitled to apply provisions which are more favourable to participants than the aforegoing.

# 新国际公司,1982年 SHARE OPTION SCHEME

The salient features of the scheme relating to share options are set out hereunder -

- the trustees shall, if the board so directs, offer employees options ("share options") to purchase or subscribe 6.1 for ordinary shares. Each share option shall confer upon the holder thereof the right to purchase or subscribe for one ordinary share upon the terms and conditions summarised below;
- the amount payable by a participant for his scheme shares shall be calculated in accordance with the 6.2 provisions of 5.2 above;

- share options may not be exercised at any time but will only be released to a participant mutatis mutandis in accordance with the provisions of 5.5 above;
- share options will lapse, inter alia, if they remain unexercised after the fourth anniversary of the acceptance date;
- 6.5 if an option holder's employment with the Group terminates the provisions contained in 5.7 will mutatis mutandis apply;
- 6.6 if Afgem undertakes a rights offer, it shall grant to the option holder additional options to acquire the same number of shares or other securities to which he would have been entitled had he been the holder of the same number of ordinary shares as the number of share options held by him. Such additional options shall be granted, inter alia, on the basis that the option price shall be the same as the subscription price of those shares or other securities;
- 6.7 provision is also made for appropriate adjustments to be made to the rights of participants in the event of the re-organisation of Afgem, a reduction of its share capital or a consolidation or subdivision of its shares or in the event of Afgem undertaking a capitalisation issue.

### 7 COMBINED-OPTION/DEFERRED SALE SCHEME

The salient features of the combined-option/deferred sale scheme are set out hereunder -

- 7.1 participants may be granted options ("rights and options") to enter into agreements with the company to acquire ordinary shares ("allocation shares"), which rights and options may be exercised by a participant at least 14 days from the date of grant thereof, failing which such rights and options shall automatically lapse. If a participant exercises such rights and options, the resultant agreements will be upon, inter alia, the following terms-
- 7.1.1 the amount payable by a participant for his scheme shares shall be calculated in accordance with provisions of 5.2 above;
- 7.1.2 unless the board otherwise resolves, no allocation shares shall be capable of being delivered as contemplated above until a period calculated on mutatis mutandis the same basis set out in 5.5 above;
- 7.2 if a participant's employment with the Group terminates, the provision contained in 5.7 shall mutatis mutandis apply.

### 8 CAPITALISATION ISSUES ETC

Scheme shares will rank pari passu with the other issued ordinary shares in the capital of the company in all respects including, inter alia, for participation in -

- 8.1 capitalisation issues. Such capitalisation shares will be subject in all respects to the provisions of the scheme as if they were scheme shares;
- 8.2 rights offers of shares or other securities, provided that such rights (if renounceable) may only be renounced in favour of the trust or its nominee. Rights followed by a participant shall be subscribed for by the trust subject to the following terms and conditions -
- 8.2.1 Afgem (or if applicable a financial institution) shall lend to the trust the amount required for the purpose of subscribing for the shares. Such shares shall then be issued to the participant;
- 8.2.2 certificates or other relevant documents of title in respect of such shares shall be retained by the trust in pledge; and
- 8.2.3 the subscription price of the shares shall be paid by the participants at the same time that payment for the scheme shares from which the entitlement to the shares arose, is to be made.

Annexure 5

### **APPOINTMENT, QUALIFICATION, REMUNERATION AND BORROWING POWERS OF DIRECTORS** (2(b),(c),(e)) [7.A.12, 7.B.3, 7.B.4, 7.B.13]

The relevant provisions of the articles of association of Afgem providing for appointment, qualification, remuneration and borrowing powers if its directors are as follows -

### "DIRECTORS

- Subject to the provisions of the Act unless otherwise determined by a general meeting, the number of directors shall be not less than four nor more than twenty.
- A general meeting of the directors shall have the power, from time to time, to appoint anyone as a director, either to fill a vacancy in the directors or as an additional director, provided that the total number of directors shall not at any time exceed the maximum number fixed by or in accordance with these articles and the appointment of any director so appointed shall cease at the conclusion of the next annual general meeting, unless it is confirmed at that annual general meeting.
- 35 The continuing directors may act, notwithstanding any vacancy in their number, but if and for so long as their number is reduced below the minimum number of directors required to act as such for the time being, the continuing directors may act only to -
- 35.1 increase the number of directors to the required minimum, or
- summon a general meeting for that purpose, provided that if there is no director able or willing to act, then any member may convene a general meeting for that purpose.
- 36 Neither a director nor an alternate director shall be obliged to hold any qualification shares.
- 37 The remuneration of the directors for their services as such shall be determined from time to time by a general meeting.
- The directors shall be paid all travelling, subsistence and other expenses properly incurred by them in the execution of their duties in or about the business of the Company and which are authorised or ratified by a disinterested quorum of the directors.

### ALTERNATE DIRECTORS

- 39 Each director may by notice to the Company -
  - 39.1 nominate anyone or more than one person in the alternative (including any of his co-directors) to be his alternate subject to the approval of the other directors of that alternate, which approval shall not be unreasonably withheld;
  - 39.2 at any time terminate any such appointment.
- The appointment of an alternate director shall terminate -
  - 40.1 when the director to whom he is an alternate director -
  - 40.1.1 ceases to be a director; or
  - 40.1.2 terminates his appointment; or
  - 40.2 if the directors reasonably withdraw their approval to his appointment.
- 41 An alternate director shall -
  - 41.1 only be entitled to attend or act or vote at any meeting of directors if the director to whom he is an alternate is not present, provided that –

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- 41.1.1 he may attend a meeting of directors at which the director to whom he is an alternate is present if the other directors agree thereto;
- 41.1.2 any person attending any meeting of directors as a director in his own right and/or as an alternate for one or more directors shall have one vote in respect of each director whom he represents, including himself if he is a director;
- 41.2 only be entitled to sign a resolution passed otherwise than at a meeting of directors in terms of these articles if the director to whom he is an alternate is then absent from the town in which the office is situate, or is incapacitated;
- 41.3 subject to the aforegoing, generally exercise all the rights of the director to whom he is an alternate in the absence or incapacity of that director;
- 41.4 in all respects be subject to the terms and conditions existing with reference to the appointment, rights and duties and the holding of office of the director to whom he is an alternate, but shall not have any claim of any nature whatsoever against the Company for any remuneration of any nature whatsoever.

### **POWERS AND DUTIES OF THE DIRECTORS**

- Subject to any limitation imposed by these articles, the management of the business and the control of the Company shall be vested in the directors who, in addition to and without limitation of the powers expressly conferred upon them by the Act or these articles, may exercise or delegate to any one or more persons all such powers and do or delegate to any one or more persons the doing of all such acts (including the right to sub-delegate) as may be exercised or done by the Company and are not in terms of the Act or by these articles expressly directed or required to be exercised or done by a general meeting, subject, nevertheless, to that management and control
  - 42.1 not being inconsistent with; and
  - 42.2 being in compliance with,

any resolution passed by a general meeting. No such resolution passed by a general meeting shall invalidate any prior act of the directors or any delegatee.

### **BORROWING POWERS**

- The directors may exercise all the powers of the Company to borrow money and to mortgage or encumber its undertakings and property or any part thereof and to issue debentures or debenture stock (whether secured or unsecured), whether outright or as security for any debt, liability or obligation of the Company or of any third party.
- For the purposes of the provisions of 43, the borrowing powers of the directors shall be unlimited.

### INTERESTS OF DIRECTORS

- Subject to compliance with the provisions of the Act, a director shall not be liable (in the absence of any agreement to the contrary) to account to the Company for any profit or other benefit arising out of contract entered into by the Company in which he is directly or indirectly interested.
- A director shall, if he has, in accordance with the Act, disclosed his interest (if it is material) in the relevant contract or arrangement -
  - 46.1 be counted in a quorum for the purpose of a meeting of directors at which he is present to consider any matter;

and

46.2 be entitled to vote in regard to any matter,

relating to any existing or proposed contract or arrangement in which he is interested, other than a contract or arrangement regulating his holding of an office or place of profit under the Company or a subsidiary of the Company.

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### DETAILS OF MATERIAL CONTRACTS ENTERED INTO OTHER THAN IN THE ORDINARY COURSE OF BUSINESS [ 7. D. 9, 7.H]

1.

Vendor:

Rolling Stone

Purchaser:

Montana

Merx:

Calibrated gemstone marketing business

Effective date:

1 March 1999

Purchase price: Discharge: R 500 000 1 000 000 ordinary shares at an issue price of 50 cents per share.

Address of purchaser and vendor:

Suite 105, First Floor, SA Diamond Centre, 240 Commissioner Street, Johannesburg

Date signed:

28 February 1999

Warranties:

Standard

2.

Vendor:

Montana

Purchaser:

Algem Marketing

Merx:

Gemstone marketing business; included business acquired from Rolling Stone

Effective date:

1 March 1999 R 4 450 000

Purchase price:

44 500 000 ordinary shares at an issue price of 10 cents per share.

Discharge:

Suite 105, First Floor, SA Diamond Centre, 240 Commissioner Street, Johannesburg

Address of purchaser and vendor: Date signed:

21 April 1999

Warranties:

Standard

3.

Transferors:

African Development Bank ("ADB"), Tanzania Development Finance Company Limited

("TDFL") and Eastern and Southern African Trade and Development Bank ("PTA")

Transferee:

MML

Merx:

Mining Licence No. ML 8/92 issued pursuant to the provisions of the Mining Act 1979

on 4 August 1992.

Effective date:

1 July 1999

Purchase price:

None

Discharge:

Not applicable

Addresses of transferors:

01 BP 1387 Abijan, Cote D'Ivoire; Plot 1008, Upunga/Ohio Street, Dar es Salaam,

Tanzania; 23rd Floor NSSF Complex, Nairobi, Kenya

Address of transferee:

No. 20 PPF Complex, Nairobi Main Road, Arusha, Tanzania

Date signed:

1 July 1999

Vendors:

ADB and PTA

Purchaser:

MML

Merx:

Rights and title to interest in and to the Mining Licence No. ML 8/92 issued pursuant to

the provisions of the Mining Act 1979 on 4 August 1992.

Purchase price:

US\$3 000 000 to be discharged as set out below.

Discharge:

 US\$1 000 000 was paid to Andrew Douglas Gregory on the date that the mining licence transferred.

 5% of the gross profits (defined as profit after on-mine costs) of MML to be paid to the vendors subject to a minimum annual payment of US\$100 000, for a period of five years after commencement of mining operations.

3. Issue of shares in Afgem at the listing price at a fixed Rand/US\$ exchange rate, amounting to an equivalent of US\$1 500 000; or 5% of annual gross revenue of Afgem until purchase price is discharged.

Addresses of vendors:

01 BP 1387 Abijan, Cote D'Ivoire; Plot 1008, Upunga/Ohio Street, Dar es Salaam,

Tanzania; 23rd Floor NSSF Complex, Nairobi, Kenya

Addresses of Purchaser:

No. 20 PPF Complex, Nairobi Main Road, Arusha, Tanzania

Date signed:

30 June 1999

Note:

Performance guaranteed by Afgem

5.

Vendor:

Graphtan Limited (in Receivership) represented by Andrew Douglas Gregory

Purchaser:

MML

Merx:

Certain assets of the vendor

Purchase price:

US\$250 000

Discharge:

Cash on date that Mining Licence transferred

Address of vendor:

P O Box 1523, Tanzania

Address of purchaser:

No. 20 PPF Complex, Nairobi Main Road, Arusha, Tanzania

Date signed:

30 June 1999

6.

Vendor:

TDFL

Purchaser:

MML

Merx:

Right and title in and to the Mining Licence No. ML 8/92

Purchase price:

US\$500 000

Discharge:

Date signed:

On issue of 5000 shares in MML

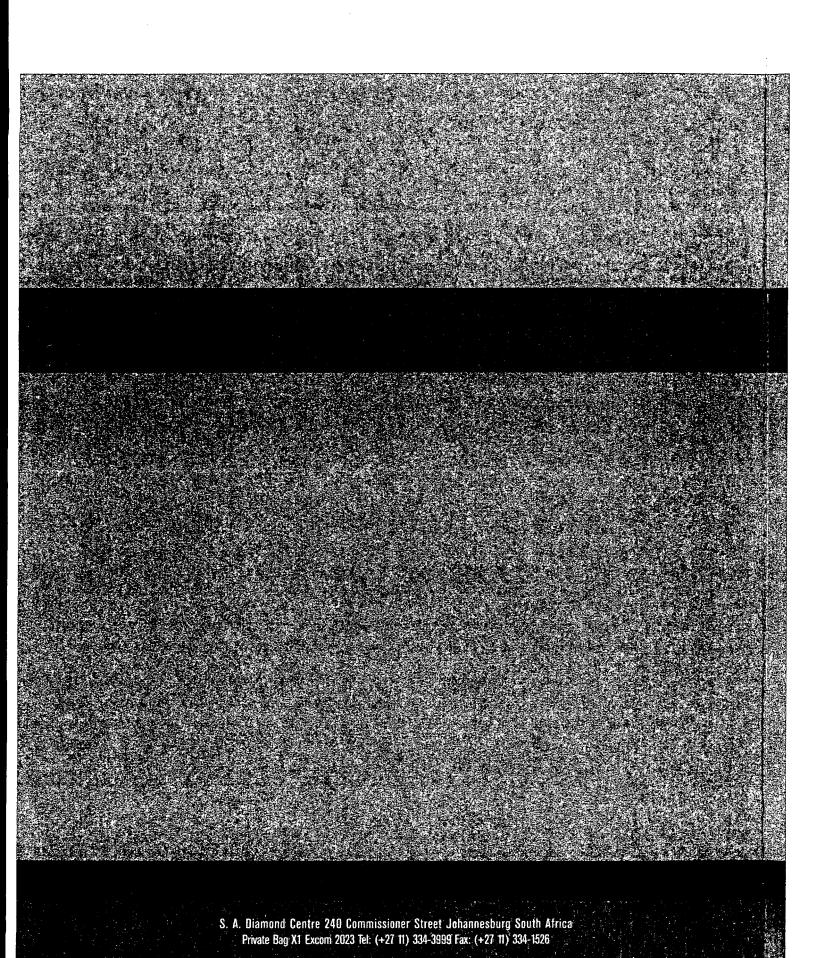
Address of vendor:

Plot 1008, Upunga/Ohio Street, Dar es Salaam, Tanzania No. 20 PPF Complex, Nairobi Main Road, Arusha, Tanzania

Address of purchaser:

30 June 1999

### NOTES



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